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Prevention of Colds and Secondary Infections

Immunization against colds with bacterial vaccines gives immunity to many patients. While the vaccines are not specific, because infections with different strains or cultures, other than are contained in the vaccine, may be responsible for the infection, the principal secondary invaders are streptococcus hemolyticus and viridans; Pfeiffer or influenza bacillus; pneumococci; M. catarrhalis and staphylococci.

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Pneumococcus (Types I, II, III and IV)	500 million
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Influenza bacillus	500 million
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Medical Times

AND LONG ISLAND MEDICAL JOURNAL

THE JOURNAL OF THE AMERICAN MEDICAL PROFESSION

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A Monthly Record of Medicine, Surgery and the Collateral Sciences

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Factors of Safety in Gall-Bladder Surgery*

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New York, N. Y.

IN any attempt to discuss the factors of safety in gall-bladder surgery, it is essential to start with an understanding of the difficulties and dangers one may encounter. It is well to keep humbly in mind the fact that surgery of the biliary tract may at times be the most difficult encountered in abdominal work and that at all times it offers opportunities for the exercise not only of technical skill, but also of sound judgment. Such an attitude will do much to prevent the enjoyment of a complacent self-satisfaction with our own work, will stimulate us to emulate the progress of others, and will in itself perhaps be the greatest single factor in assuring to our gall-bladder patient that degree of safety which he has every right to expect.

Bad results in gall-bladder surgery, as Cattell and Kiefer have pointed out, fall mainly into three groups:

1. Those in which the disappointing result arose from some factor connected with the operative procedure itself.
2. Those in which a persistence of symptoms originally complained of is found to be due to some co-existing gastro-intestinal disorder, though the biliary pathology had been eradicated.

3. Those in which the original diagnosis of gall-bladder disease was probably incorrect.

In the first group, concerning the operative procedure itself, we find four common causes for disappointing results:

- a. The incomplete removal of stones from the gall-bladder or ducts.
- b. Injury to the common duct resulting in biliary fistula or subsequent stricture with recurrent or persistent jaundice.
- c. The formation of adhesions resulting in traction upon adjacent organs with kinking or other mechanical effects giving rise to various digestive symptoms.
- d. The development of incisional hernias or of paresis of the abdominal wall due to nerve injury.

In addition to these causes for unsatisfactory results, we can list also the various factors which cause our operative deaths. Outstanding among these, as McGuire has pointed out, are four special complications or associated conditions:

1. The presence at the time of operation of long standing jaundice.
2. The presence of cardio-vascular renal disease.
3. Abscess about the cystic duct.
4. Carcinoma.

* Read before the Queensboro Surgical Society, at Forest Hills, March 21, 1932.

Other important factors which contribute toward our mortality are:

1. Hemorrhage.
2. Peritonitis.
3. Lung complications—atelectasis, pneumonia, embolism.
4. Associated pancreatitis.
5. Hepatic inefficiency.
6. Uremia.

In our second group of failures, although there is relief from some of the difficulties complained of due to the correction of the pathological conditions found in the biliary tract, there is, nevertheless, a persistence of others due to co-existing gastro-intestinal disease. Many a patient in addition to gallstones, may have an achlorhydria, a peptic ulcer, or as Lahey has emphasized, some functional disorder of the colon—a diverticulitis or colitis. A gall-bladder may have been wisely drained or deftly removed and a patient thereby more or less distinctly benefited, but if many or most of his symptoms were due in the first place to some other condition, uninvestigated and untreated, his operation naturally will fall short of the anticipated success.

The third group comprises those cases in which, although the symptoms may have simulated those of gall bladder disease, no pathological condition of the biliary tract really existed at all as their causative factor. As Lahey again says, gaseous eructations, nausea, distention, flatulence, vomiting, and irregularity of the bowels may indeed be caused by gall-bladder disease, but such symptoms are in fact even more characteristic of disorders of the colon. Failures in diagnosis will naturally result in failures in treatment and will take as large a place as we give them among the causes for our disappointments in gall-bladder surgery.

It is obvious therefore, from a consideration of these three main causes of poor results, that the surgeon assuming the responsibility for a gall-bladder patient must stand ready

1. To demonstrate that pathology of the biliary tract exists and is the cause of the patient's complaints.
2. To discover in addition to the existing gall-bladder disease all other organic or functional derangements which may have a causal relation to the patient's symptoms or a bearing upon the outcome of any attempt at operative relief.
3. He must be qualified by aptitude and training to select and carry out whatever operative procedure is best calculated to meet the requirements of the individual case.

To demonstrate the existence of pathology of the biliary tract, we rely upon our various means of diagnosis. In discussing even in a cursory way, however, the diagnosis of gall-bladder disease, we are immediately confronted with the need for separating the acute from the chronic case. They are different problems. In regard to the former, there are two questions that must be promptly answered:

1. Is the condition in reality one of acute biliary pathology?
2. If so, is it safe to defer operation, or is immediate intervention essential?

The chief difficulty in the acute case, from the diagnostic standpoint, is in the differentiation between it and other conditions which are properly considered surgical emergencies.

We have all been faced by the need for distinguishing between a diseased gall-bladder and a high retrocecal suppurative appendix. The differentiation likewise be-

tween a gallstone attack and a perforated ulcer at times offers real difficulties. Many a surgeon, after urging operation upon an unwilling patient for a supposed perforated ulcer, has experienced a feeling of chagrin next morning to find that the patient whom he had, with the misgivings of a superior wisdom, been forced to leave to his fate, is apparently perfectly well with no complaint other than a little residual tenderness below the right costal margin. But during the acute attack, and at the time when the differentiation must be made, these two conditions may exhibit many confusing symptoms.

Striving to defer operation if it is the gall-bladder that is at fault, we must nevertheless be sure that the decision not to intervene will not prove disastrous. Only a complete consideration of the case will, of course, enable us to reach a sound conclusion, but aside from the usual distinguishing features, there are two simple observations which many times have been helpful:

1. As to the patient's general build.
2. As to his posture.

It is a rather well founded fact that most, though by no means all, ulcer patients are of the asthenic type, with narrow chests, a narrow substernal angle and an obtuse angle of the jaw in contradistinction to the more broadly built type, with the wide substernal arch and the square jaw of the gall-bladder patient. Then too, it has been noted that restless, writhing patients, patients constantly changing their position, vainly seeking the relief which eludes them, are more likely to be suffering from some form of colic than from a perforation. The perforated ulcer patient on the contrary, apparently to avoid further intraperitoneal spilling of gastric contents, is quiet in his pain, not tossing about, but motionless, anxious and tense. These are minor points perhaps, but at some anxious moment, nevertheless, may prove of definite clinical diagnostic value.

Fortunately, when errors in diagnosis are made, in the presence of these acute cases, it is usually a question of mistaking a gall-bladder condition for something more urgent. An abdomen is opened in the expectation of finding a perforated ulcer or a diseased appendix and instead the biliary pathology is discovered. An error in the other direction would be far more serious, nevertheless, we should make every effort not to operate on mistaken diagnoses and in the case of gall-bladder disease, to defer operation until a satisfactory study has been made.

The dread of gangrene and perforation of the gall-bladder may, however, force operation upon us. While patients rarely die in an acute attack of gall-bladder disease and while we know that in the course of a week or ten days the vast majority of acute cases, even those showing high temperature and leucocytosis, subside, an occasional case is encountered which demands prompt relief. It is almost impossible to formulate criteria for early intervention, it depends so much upon individual judgment, but the acute case which in spite of supportive and palliative treatment shows persistent and uncontrollable vomiting, increasing acidosis, hurried shallow respirations, rising pulse rate, perhaps out of proportion to the temperature, with persistent agonizing pain, spreading over the epigastrium, to the left of the midline or down to the right lower quadrant, together with increasing intestinal distension, is one in which early drainage may be the only means of saving life.

In the diagnosis of the chronic case there is probably no single factor of greater importance than the carefully elicited history. The typical case is of course unmistakable. Even the most complete history, however, suggestive as it may be, or coupled with a physical examination that leaves little room for doubt, should by no

means be considered as anything more than the background for the full study of the gall-bladder case.

The question which faces us is the determination of just what constitutes a proper "work-up" of the suspected gall-bladder patient. What preoperative routine study should be followed in our hospital services in order to assure safety to our patients?

Never underestimating the primary importance of clinical data as determined by the history and physical examination, there is, nevertheless, an indispensable minimum of laboratory work which should be done in every case. Urinalysis, blood pressure, complete blood count with hemoglobin determination, Wassermann, blood chemistry for N.P.N., creatinin, blood sugar and cholesterol should be routine. The Van den Bergh and icteric index for latent jaundice and in the manifest case, for its degree and type, should invariably be employed. The coagulation and bleeding time should be determined and finally x-ray not only of the gall-bladder but of the entire gastro-intestinal tract as well should be made.

The advances in cholecystography have been of the greatest value. The non-visualization of the gall-bladder after the administration of the dye, its delayed emptying, the exhibition of the negative shadows in the gall-bladder or the positive shadows of the opaque calcium stones or of the "new moon" or ring-shaped stones with their cholesterol nucleus and calcium capsule, aid us not only in determining the existence of a pathological condition, but may even give us a hint as to its degree and type.

In the obstructive jaundiced cases, however, it may be of no assistance, as the liver is already damaged, a fact to which we perhaps give too little thought, its function is disturbed and it may therefore be unable to remove a sufficient amount of the dye from the blood stream for proper visualization of the gall-bladder. In such a case, too, it may be wiser not to employ the x-ray and thus avoid subjecting the damaged liver to the additional toxic effect of the dye.

In addition to x-ray of the gall-bladder itself, however, x-ray of the entire gastro-intestinal tract should be resorted to. In this way are we not only less likely to overlook some associated condition in the G. I. Tract, but we can also enlarge the scope of our study of the gall-bladder itself by our demonstration of the indirect effects upon it of the inflammatory process. X-ray evidence of impingement upon the lumen of the stomach or intestine by a distended gall-bladder or of their malposition due to contracting adhesions may be of the utmost value in differentiating the gallstone case with jaundice, for instance, from a malignancy of the pancreas with resulting biliary obstruction.

Cholecystography then, in about 70% of cases yields correct diagnostic findings. There is still a large percentage of cases remaining, however, in which in spite of negative x-ray findings, a diseased gall-bladder even containing stones may be found at operation.

In cases, therefore, in which the suspected existence of gall-bladder pathology is not confirmed by x-ray, recourse should be had to biliary drainage through the duodenal tube, the Lyon-Meltzer test together with the search for cholesterol crystals and bilirubin calcium pigment. Recent advocates of this procedure claim an even higher percentage of correct diagnoses than can be attained through the x-ray.

The absence of "B" bile often indicates the occlusion of the cystic duct and thus confirms the lack of visualization of the gall-bladder in the Graham test. It must be remembered, however, that this occlusion may be only

temporary, the result of passing causes, and that repeated tests may be advisable or necessary. The finding of cholesterol crystals alone, too, may be misleading, as this may occur in any condition causing stasis of bile, but the recovery of both cholesterol crystals and of the bilirubin calcium pigment is held by Behrend and many others to be pathognomonic of stone. For this reason, this procedure is being strongly urged by many investigators as a diagnostic measure and in the doubtful case if not in the routine work-up, might be of the utmost value.

Pursuing such a routine study as above outlined, which when conditions permit could be even further amplified, we should in the vast majority of cases be able to demonstrate whether or not disease of the biliary tract exists.

The mere demonstration of biliary pathology, however, is not sufficient. A further obligation has still to be met. We must be sure that the pathology found is the cause of our patient's symptoms. Gallstones, while never harmless, may nevertheless, as everyone knows, be "silent", giving rise to no symptoms whatever. We must, therefore, not allow the discovery of their presence to distract our attention from some other condition which is really the basis for the complaints. The removal of gallstones, even though in itself often justifiable, will not relieve the symptoms due to a stricture of the ureter, an enteroptosis, a diverticulitis or an early carcinoma of the transverse colon. Our study must therefore be complete in order that we may properly evaluate the probable effects of any contemplated operative procedure.

Associated conditions must be appreciated. Factors of safety are certainly ignored when at the time of operation we have not made known to ourselves the existence of a coronary sclerosis, a low renal reserve, or some latent pulmonary infection or metabolic disturbance, which, not guarded against, may end in disaster.

We may, however, be only too well aware of the difficulties. We may well realize that the gall-bladder pathology itself is extensive, that the cardiac reserve is meager, that the renal function is impaired, that the blood pressure is dangerously high, that a probably associated pancreatitis has added greatly to the hazard of our undertaking. Under these circumstances we have a far more difficult task on our hands, but we are at least facing the issue squarely and must accept the added risk. Knowing all the facts puts us in a better position to undertake the broad management of the case and gives our patient a better chance for ultimate recovery.

Having then completed our "work-up" of the case, having studied the associated conditions as well as the basic pathology, and having satisfied ourselves that operation is indicated, we are finally in a position to consider the measures best suited to our particular patient.

The preoperative care of such a patient has many angles. Cooperation with an internist will secure the maximum improvement in cardio-vascular dependability, a high-calory carbohydrate diet will tone up the function of the liver, by CO₂ combining-power determinations conditions of alkalosis or acidosis can be detected and by intravenous injections of saline or glucose the acid-base balance restored. The jaundiced patient can be better prepared and his coagulation time reduced by injections of calcium chloride. We usually dilute an ampoule of 5-10 cc. of the 10% solution in 125 cc. of physiologic saline. This greater dilution diminishes the likelihood of causing thrombosis of the vein or a slough of the tissues if any of the solution is accidentally injected outside the vein. These injections are made once a day for three successive days before operation. In the use of glucose by injection, because of the possibility of sloughing, we have abandoned its use subcutaneously

even in dilute solution, though we make frequent use of it intravenously.

Transfusions may of course be of value preoperatively, but ordinarily are not required merely for the control of bleeding in the jaundiced patient. It is well, however, at least to have the patient typed and a suitable donor on call in case of necessity.

Repeated determination of the icteric index will help us to choose a time for operation when the bilirubin content of the blood is apparently as nearly within normal limits as it is likely to become.

The injection of tetraiodophenolphthalein intravenously besides being of service from the x-ray standpoint, can also be used as a functional test of the liver, as the purple stain thereby imparted to the serum can be used in determining the degree of retention of the dye in the blood stream. Graham states that if after the injection of 2.5 gm. there is a retention of more than 50% in the first half hour, operation should be deferred. Further tests after suitable preoperative care will then indicate the best time for surgical intervention. The toxic effect of the dye itself, however, can not be overlooked and in the deeply jaundiced patient should probably be avoided entirely.

In the elective cases in which over-weight is a striking factor, an attempt may be made to reduce the obesity. This should never be done abruptly, however, as it lessens resistance. On the contrary, preoperatively we should give our patients as unrestricted a diet as possible, and a few hours or the night before operation, in addition to orange juice by mouth, we frequently contribute to the glycogen content of the liver by giving intravenously 1000 cc. of 10% glucose.

Operation having been decided upon, it is necessary to choose an anesthetic. In this respect we have a definitely wider field than formerly and the wise selection of an anesthetic is often a big factor in promoting the safety of our patient. Local infiltration or field block is probably the safest of all anesthetics and would certainly be the method of choice in the desperate case in which nothing but the simplest drainage is contemplated. Avertin used as a basal anesthetic, and in the absence of any great liver damage, for avertin is largely detoxified in the liver, might be particularly well adapted to some special case. Gas, oxygen and ether are still in the ordinary case a valuable combination. The relative lack of toxicity, however, the somewhat greater freedom from respiratory complications, the absolute relaxation of the abdominal wall together with the "silent abdomen" within, make the use of spinal anesthesia particularly favorable in gall-bladder surgery. With varying degrees of preliminary narcosis, as afforded by the use of sodium luminal and morphine sulphate with or without hyoscin, we usually find our patients relaxed, non-apprehensive, mentally and physically at rest, and our own work much facilitated by the complete relaxation obtained. If for any reason we prefer to avoid the fall in blood pressure which sometimes occurs shortly after the injection of the spinal anesthetic, we commence an intravenous injection of 10% glucose, allowing 750 to 1000 cc. to flow in slowly while the operation is in progress. We believe this procedure adds to the safety of our patient and lessens one of the potential dangers of the subarachnoid block.

The upper right rectus incision, with splitting of the fibers of the muscle, leads to a disappointingly large number of postoperative incisional hernias, and occasionally to nerve injury with pronounced bulging of the whole right upper abdominal wall. With the retraction of the whole belly of the rectus muscle laterally, however, and keeping its fibers intact, a vertical incision of

practically any length may be made without fear of an undue likelihood of hernia and without injury to the nerves supplying the muscle.

A vertical incision of this type of suitable length, giving adequate exposure, which is absolutely necessary and a real safeguard against difficulties within the abdomen, is satisfactory in many ways, and is perhaps more generally suited to the average case than any other.

The transverse incision, tangential to the costal border, and dividing the rectus muscle transversely, however, has many advocates. Because of the transverse direction of the fibers of the great aponeurosis in which the flat muscles of the abdominal wall find their common insertion, straining or distension causes the edges of the incision to become taut and to approximate each other, rather than to pull apart as in the vertical incision. Abdominal closure is therefore facilitated. Postoperatively, especially with the patient in a Gatch bed, there is less pain, less splinting of the muscles, less restriction of respiration, better aeration of the lungs and possibly, therefore, less danger of postoperative pulmonary complications. With it, too, a nearer approach to dependent drainage can be secured as the drain is allowed to emerge at the outermost angle of the wound at a point often far in the flank. Drainage through a stab wound, however, in practically the same site, when the vertical incision is employed, likewise gives dependent drainage and allows of the accurate and complete closure of the abdominal wound.

With the transverse incision, however, especially in a male patient in whom the tissues are usually not so lax and the substernal space less wide, there may be difficulty in gaining access to the highly placed gall-bladder—high up under the liver—and the upper edge of the incision, like an obstructing shelf, may likewise interfere with the satisfactory probing of the ducts. This incision, however, chosen in the suitable case, may lessen the hazard of a postoperative pneumonia and thereby become another factor of safety.

Satisfactory exposure of the operative field, adequate retraction, and trained, intelligent assistance, are vital for good gall-bladder surgery; without these no patient is protected against unnecessary difficulties or possible injury to important structures. Clean bloodless dissection, gentleness, visual identification of the ducts, accurate hemostasis, and peritonealization of exposed surfaces, are all of the utmost importance in surgery of the biliary tract, for without them we fall short of the best results.

Crile speaks of the thermogenic function of the liver and of the need for maintaining optimum temperature during operation. He estimates that one-third of the heat of the organism is produced there and that there is a close association in temperature regulation between the heat center of the brain and heat production in the liver. He states that when the temperature of the liver is reduced one degree, there is a fall of ten percent in its chemical activity. The need, therefore, for maintaining the temperature of the liver by protecting it with hot pads, or as Crile himself has advocated, by the use of diathermy both on the operating table and postoperatively, is obvious.

Search for possible stones, not only in the gall-bladder, but in the cystic, hepatic and common ducts as well, must be thorough. In the desperate case this might be omitted, a common duct stone might even be deliberately left in place, and a simple drainage of the gall-bladder done. Such a condition simulates that found in a two-stage prostatectomy, in which we drain the urinary bladder and leave the obstructing prostate. Biliary obstruction with resulting liver insufficiency is similar to kidney insufficiency from prostatic obstruction and, as Crile

states, decompression is the primary indication in both.

More and more common ducts are being incised in Lahey's Clinic in the search for stones and more and more stones are being recovered than was formerly the case. But how can we determine whether the duct should be incised or not? The duct of course should be explored if the history suggests the presence of a common duct stone, but without such symptoms and with the finding of a normal duct, there is no need to open it. If the duct is not dilated and if with stones in the gall-bladder, there have, nevertheless, been no fever, chills or jaundice, Graham states that the duct should not be opened though every effort should be made digitally to explore it. By incising the parietal peritoneum just lateral to the duodenum and rotating that organ inward, the common duct may be more thoroughly exposed and the digital search for stones within it facilitated.

If the common duct is dilated, however, regardless of a suggestive history, it should be opened and stones searched for and the unobstructed patency of the duct into the duodenum assured.

Only by the exercise of such precautions will we avoid the all too easy overlooking of stones, the continued presence of which causes a persistence of symptoms or the development of still more troublesome complications.

Inadvertent injury to the hepatic or common duct must at all hazard be avoided. Unlooked for bleeding must not occur, and blind efforts to control it, if unfortunately it does arise, must be shunned. The assistant's hemostat as well as the operator's must be nicely used, ligatures about the cystic duct must not be placed too close to the site of juncture with the common, and there must be no undue traction upon ligatures resulting in distortion of the ducts or their injury while held in such an abnormal position. Biliary fistulas or subsequent strictures are best treated prophylactically; secondary operations for their relief are often bitter disappointments.

It is wise, we believe, especially in view of the fact that accessory ducts are so often present, to drain all cases in which gall-bladder surgery is done. We have all seen the ideal case, undrained, suddenly die from peritonitis. Although tempted at times to omit the drain, we invariably employ it, taking care in the use of the cigarette drains that the gauze wick does not protrude beyond the deep end of the rubber jacket. Moreover, we do not tease it, shortening it an inch or so every few days, but leave it alone until satisfied that it is no longer needed. Its complete withdrawal and, in the purulent cases, the substitution, perhaps, of a catheter for a day or two of Dakinization, usually assures a smoother curve on the temperature chart and causes fewer worries.

But how, in the first place, are we to determine on opening an abdomen that a gall-bladder is pathological? As Moynihan puts it, "when it has lost its blue color or sheen—though every blue gall-bladder isn't necessarily a normal one—when it has lost its suppleness, when its walls have become thickened by fibrous tissue or the deposit of fat, when the cystic gland is definitely enlarged, when adhesions have formed between the gall-bladder and the duodenum or colon, when the cystic duct is thickened and the pelvis of the gall-bladder has settled in a mass of adhesions firmly down on the common duct."

The conflict of opinion regarding the advisability of doing a cholecystostomy or a cholecystectomy in any given case has now lost most of its rancor, though the question still arises. Our worst results are concededly in the non-calculous cases, in which, unless there is definite evidence of gall-bladder pathology, as shown by cholecystogram together with clinical evidence of

disease, surgical intervention at all is probably unwise. The approach to the problem in uncomplicated cases in which the mortality, whether the gall-bladder is removed or merely drained, is equally low, must be based upon:

1. A consideration of the functions of the gall-bladder.
2. A knowledge of the effect, as to permanent cure, resulting from the various procedures.
3. A knowledge of the effect the removal or retention of the gall-bladder has upon diseases of the liver and pancreas.

Turning aside from the various complicated theories and speculations as to the function of the gall-bladder, we may assume that it stores and concentrates bile, that it regulates the tension in the biliary system and the intermittent flow of bile into the duodenum. As Lahey says, for practical purposes we may assume that bile does enter and leave the gall-bladder by the cystic duct and that the gall-bladder empties itself by the sum total of several factors, such as its own elastic recoil, the contraction of its muscular walls, abdominal pressure, and the relaxation of the sphincter of Oddi. Its removal therefore affects these functions. It causes a dilatation of the bile ducts, a relaxation of the sphincter of Oddi and therefore, possibly, a subsequent infection of the bile passages as well as a constant dribbling of bile into the intestine, the so-called "biliary incontinence." The removal of the gall-bladder, moreover, being a more extensive procedure, may result in troublesome adhesions, hemorrhage or possibly an irreparable injury to the ducts.

On the other hand, the retention of the gall-bladder following simple drainage may result in:

1. Fistula, either mucous or biliary.
2. The retention or reformation of calculi.
3. The formation of adhesions.
4. Recurrent attacks of cholecystitis from infection of its contents or within its walls.
5. Postoperative ventral hernia, always more likely after prolonged drainage.
6. The possible development of carcinoma in the retained gall-bladder.
7. In the rare cases of tuberculosis of the gall-bladder, the development of tuberculous peritonitis.
8. Recurrent hepatitis and pancreatitis.
9. The increased hazards of secondary operations which may be required, with further adhesions, a greater likelihood of hemorrhage and shock from a protracted operation as well as the greater possibility of injury to other organs.

Experience has taught, moreover, that following primary cholecystectomy there is usually no serious interference with biliary function or loss of nutrition, that stones once removed rarely reform in the common duct and that our highest proportion of "cures" follows this type of treatment.

Most surgeons might agree upon a cholecystectomy when the gall-bladder has become contracted and functionless, or, with or without stones, the cystic duct has become the site of stricture. Most surgeons in the presence of such a gall-bladder will prefer cholecystectomy even with the additional finding of common duct stones, adding to the first procedure the draining of the duct. Some will prefer it even if the gall-bladder is functioning and the cystic duct patent, but because of the complications that so frequently develop, a cholecystectomy with drainage of the common duct would under these circumstances probably be the choice of the greater number. In the presence of jaundice still fewer will risk cholecystectomy, especially if the jaundice is due to an

associated infective cholangitis. Whatever the choice of operation, its selection, however, must not be based on any blind adherence of narrow partizanship to one procedure or another, but rather upon a broad view of the whole question of biliary surgery. Cholecystectomy is ordinarily desired, but as Moynihan wisely states, "cholecystomy will be demanded where there are acute infective conditions for which instant relief is necessary and in those patients whose powers of withstanding the shock of any detailed operative procedure are small."

Postoperatively, provision must be made for an adequate intake of fluids. Although watchful to avoid any sudden or excessive burden upon an embarrassed myocardium, repeated intravenous injections of glucose, 5 to 10 per cent, and hypodermoclysis of physiologic salt solution should be freely given. Maintaining the acid-base balance, securing adequate rest, providing for full aeration of the lungs, are all of prime importance in the after care of the gall-bladder patient. Modified Fowler's position, frequent change of posture, avoidance of constricting dressings and the use of CO₂ inhalations, regardless of the type of anaesthesia employed, will do much to prevent the atelectasis which so often results in postoperative pneumonia. Prevention of distension, by continuous lavage with the duodenal tube may through the avoidance of vomiting and strain protect a dilating heart and reduce to a minimum the absorption of toxic intestinal products. In the peritonitis cases, caution should be observed in the pushing of proctoclysis or enemas so as not to accentuate the inflammatory process by overactive peristalsis. Renal failure, signs of hepatic insufficiency, the onset of acidosis or the twitching somnolence of alkalosis must be watched for and with the cooperation of the laboratory scientifically combated.

Only in this way—with painstaking care for detail, alert for difficulties, prompt in our efforts to overcome them, in our operative work avoiding the unnecessary but not shrinking from the essential—can we justify the assumption of our responsibility. Otherwise, whether or not the eventual outcome happens to be fortunate, we have failed to provide for our patients the factors of safety which the highest type of surgery demands.

BIBLIOGRAPHY

1. Martin, Walton—"Recent Controversial Questions in Gall-Bladder Surgery." *Annals of Surgery*, March, 1924. Vol. 79, pp. 424.
2. Judd & Parker—"Mortality Following Operations on Biliary Tract, Pancreas and Liver." *Annals of Surgery*, Sept., 1926. Vol. 84, pp. 419.
3. Haggard, W. D.—"Some Debatable Points in the Surgery of the Gall Tract." *S. G. & O.*, July, 1925. Vol. 41, pp. 92-96.
4. Erdmann, John F.—"Surgery of the Gall-Bladder." *Medical Record*, May 29, 1920. Vol. 97, pp. 901.
5. Crile, G. W.—"Function of the Liver in Relation to Operations on the Gall-Bladder and Ducts." *J. A. M. A.*, July 31, 1926. Vol. 87, pp. 309.
6. Hockus, H. L.—"Diagnosis of Gallstone Disease." *MEDICAL TIMES AND LONG ISLAND MED. JOURNAL*, August, 1931.
7. Moynihan—"Abdominal Operations."
8. Lahey, Frank H.—"Surgical Conditions of the Biliary Tract." *Annals of Surgery*, Sept., 1929.
9. Overholt, Richard H.—"Biliary Tract Visualization with Radiopaque Oils." *S. G. & O.*, 1931. Vol. LII, pp. 92.
10. Benham, F. R.—"Cholecystitis With and Without Cholelithiasis." *Amer. Jour. of Surgery*, Vol. IX, No. 1, pp. 126, July, 1930.
11. Behrend, M.—"Diagnosis & Treatment of Gall-Bladder Disease." *Amer. Jour. of Surgery*, Vol. IX, No. 1, July, 1930, pp. 131.
12. Watters, Waltman—"The Removal of Stones from the Common and Hepatic Bile Ducts in Jaundiced Patients." *S. G. & O.*, Dec., 1929, pp. 860.
13. Carter, R. F.—"Pre-Operative & Post-Operative Treatment of the Gall-Bladder Patient." *Annals of Surgery*, April, 1927.
14. Bockus, Shay, Willard & Pessel—"Comparison of Biliary Drainage and Cholecystography in Gallstone Diagnosis." *J. A. M. A.*, Vol. 96, No. 5, pp. 311.
15. Heyd, C. G.—"Liver Deaths in Surgery of the Gall-Bladder." *J. A. M. A.*, Vol. 97, No. 25, pp. 1847, Dec. 19, 1931.

121 East 60th Street.

Discussion

DR. W. H. BARBER—"Dr. Dealy covered the subject that he prepared for us very properly and very completely.

"It would be impossible for one to touch upon all the points that the doctor brought out. I think it can safely be said that most of us agree with all he has said. Some of us have some variations in our study or in our treatment, but we are all aiming at the same result, namely, to keep the gall-bladder patient

safe. The gall-bladder patient is a very complicated individual. Of course, the 'acute gall-bladder' is an 'acute abdomen,' and, consequently, must be taken care of at once. There is no time for study in those cases; but the chronic gall-bladder case is complicated. It is there that the surgeon should combine with the internist and with the laboratory worker in order to obtain all the information necessary, to plan the operative procedure, to economize on time, and to minimize in so far as possible the abdominal trauma when the patient is under operation. I think it would be splendid if those of us who are in charge at the different hospitals would agree among ourselves upon a minimum work-up for gall-bladder cases, so that patients could not be rushed in to save hospital expense, for operation, and then force upon us the necessity of doing what we best can under the circumstances of an incomplete work-up. When such patients are discharged they may go to some other hospital for more thorough treatment. If we could agree upon such a course of preoperative study as Dr. Dealy outlined, after taking a careful routine history, it would, I think, be a step forward in the hospitalization of the gall-bladder case. In that connection, I think it is worth while to commend an interne when he takes a good history, and to get after the interne who does not. That would mean better internes and better case-histories. The physical examination I consider very, very important. It frequently is impossible to have a good examination made by the interne staff. I think they will appreciate it if we check up on them a little more than we do. In addition to the history and the physical examination, we ought to have a gastro-intestinal series as well as an x-ray examination of the gall-bladder, for the reason that so many cases of gall-bladder disease are complicated by chronic appendicitis or duodenal ulcer. In addition to the x-ray, the Van den Bergh test and icteric index should be done, as Dr. Dealy suggests. I think those should be done routinely as well as a sugar tolerance in certain cases; not in every case, however. If a blood chemistry is done, as it should be, it may not be necessary to add a glucose tolerance. The coagulation time, especially in jaundice cases, is very important, as also is the bleeding time. If we could have an understanding with the staff so that when a case comes in, perhaps on the ward, we could run through a routine like that whether the case is admitted, say, to Mary Immaculate, Jamaica, Flushing, or other hospital, it wouldn't be possible for a man who is slipshod in his methods to slip out of one hospital into another in order to get a case done in a rather brief and incomplete kind of way. Then, another thing, is this: if some of these gall-bladder cases turn up subsequently at some other place, some larger hospital, and they write to us for our records, it's a good thing and we will not have to sacrifice our pride, if we are in position to send them a complete work-up, as well as the operative findings and what was done. We cannot give them a first-rate report of a case if our records are not kept in good shape.

"In regard to drainage: I think that when in doubt and the margin of safety appears to be small, drainage is preferable, regardless of whether an ectomy can be done.

"If the x-ray examination is negative and you can make a diagnosis on the history, physical findings, and the other helpful tests, with all due respect to the x-ray man, I think we ought to consider the case one of 'gall-bladder' and operate the same as we do in a case of appendicitis, because there is still a large percentage of cases which are negative to the x-ray and are positive stone cases.

"In regard to the question of anesthesia: I agree with Dr. Dealy that novocaine—local or block—in a very sick patient is the easiest way in and out. Avertin is again being favored. Sometimes it has to be combined with ether or nitrous oxide or novocaine, but ether is thought to counteract some of the depressing action of the avertin.

"The doctor does not care very much for the rectus-splitting incision. A large percentage of cases in which the patient is stout has a great big fat layer and there isn't any rectus at all. Ordinarily, I split the muscle, but in some cases there are such a few fibers that it is almost a shame to call it a muscle. The transverse incision is one I am afraid of, especially where there is much fat. The incidence of postoperative embolism is relatively high after gall-bladder operations. Increased fat traumatization may be an added causative factor. I understand that Dr. Pool in classifying his cases of emboli in abdominal surgery at New York Hospital found the largest percentage in the gall-bladder group. The transverse incision may facilitate the approach to a difficult bladder but in my opinion should be reserved for selected cases.

"I show the diagram on the left hand side, Fig. No. 1, to emphasize the advisability in some of our problematical cases of making an incision half above and half below the umbilicus, because I have so often seen a man who is certain he is dealing with a gall-bladder make an incision to deal with that and then find he has a big fibroid that he did not find vaginally or abdominally, and the gall-bladder is relatively less important. He is practically 'licked' unless he makes a big incision way down to

the pelvis from the xiphoid, which is not a good thing." Dr. Barber referred here to the appendix often being involved and said that "it is unwise to make an incision below to determine what you have to do, and then extend the incision upward. 'We hear it is said that the gall-bladder should be removed from 'above downward' or from 'below upward.' It seems to me that is not a very pertinent consideration. Ordinarily, what we have

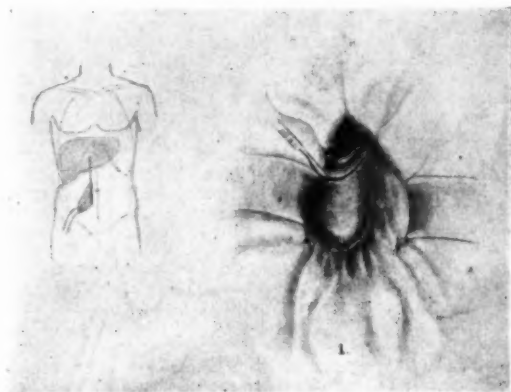
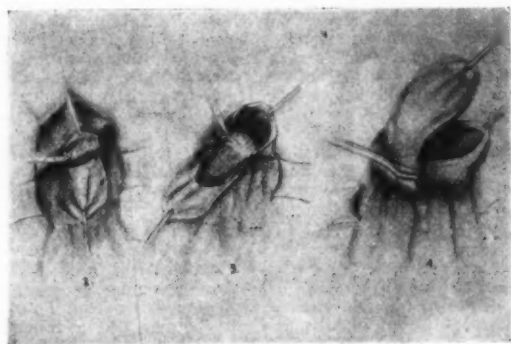


Fig. 1. Note location of incision of abdomen (left) and first step in cholecystectomy (right).



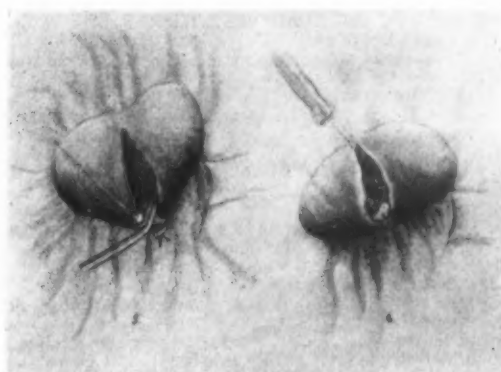
Figs. 2, 3, and 4. Note method of dissection of gall-bladder and clamping of pedicle.

been doing is to make an incision (Figs. 2, 3 and 4) as indicated on this side, in the submucosa of the gall-bladder, putting an Allis clamp on the gall-bladder, pulling it away, leaving the serosa attached to the liver bed of the gall-bladder. I don't think it is a good thing to carry your dissection right down to the cystic duct. Dr. Dealy emphasized the question of thoroughness. I believe that is a good thing, but perhaps you have noticed when you give an interne or a resident a chance to work, he will go down almost to the duct and have so many clamps on the vessels that you would think he was taking out a thyroid, and because of the great number of clamps he is using he cannot get in to do the rest of the work. It is very difficult to tie those vessels in the abdomen before removing the bladder or to remove the bladder without first removing the clamps. I go down perhaps two-thirds (of the way), and then use a curved clamp and swing it around the cystic duct, up in between the liver and the gall-bladder, and take in the lower portion of the attachment between the gall-bladder and the liver. I like to clamp the pedicle first and pick up the artery afterwards if necessary. (Fig. 6). I heard one man who is much older than most of us here make the statement that you should cut the artery and then clamp it. I feel that is hazardous for the inexperienced. In this case the artery was tied separately, after ligating the stump. It is sometimes said that it is wise to turn in that rough edge of liver left by the detachment of the gall-bladder wall with a running suture. Personally, I do not consider it wise for the liver falls together and covers in the raw edges; and it is a good place to leave a drain." See Figs. 7 and 8.

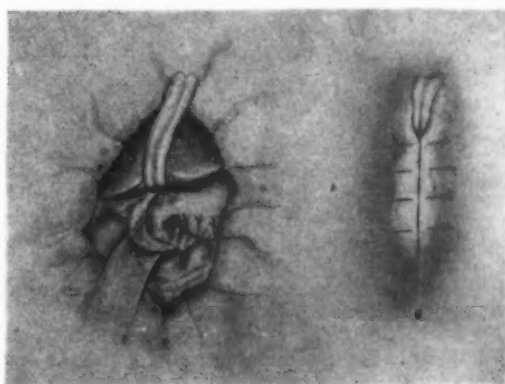
DR. JOSEPH S. THOMAS:—"I did not intend to discuss the paper. Some things, however, have occurred to my mind. In the first place, in respect to the question of x-ray examination of the gastro-intestinal tract in every case, it is all right to examine our patients thoroughly, and I presume that we all

make thorough examinations. On the other hand, I think it also is the duty of the surgeon to think of the cost of medical care. Usually I do not have a complete gastro-intestinal series done where the symptoms point to the gall-bladder as the cause of the trouble, and where the cystogram shows evidence of a diseased gall-bladder. Dr. Dealy stated in the paper that the results of the cystogram could be depended upon in about 70 per cent. of cases. He then made another statement which I do not very well understand, namely, that there are a great many negative cases. I would like to know if by negative he means cases in which one gets no shadow of the gall-bladder at all, or whether he means the shadow that is shown indicates an abnormal gall-bladder. I believe in cases I have seen that the percentage of accuracy as determined by the cystogram is higher than 70; but I take it that negative pictures (by that I mean where no shadow of the gall-bladder is shown) is presumptive evidence that the bile does not pass into the gall-bladder. I think it is a good plan to take a second cystogram to make sure. Where one has two cystograms, and the dye shows in the intestinal tract, I feel one can safely assume that there is some trouble with the cystic duct, or that there is something which interferes with the passage of bile into the common duct.

"In so far as technic is concerned, I presume that I am a little old-fashioned. I like the approach from above downward; that is, beginning at the fundus of the gall-bladder and separating that from the liver first. I am aware that most surgeons go at it the other way. When you have it separated, you have the gall-bladder where you can see it, the cystic duct can be plainly seen, and a ligature can be placed about it; whereas if you approach it from below upward, I think there is a little more risk of inflicting damage to one of the accessory ducts. I think it is good technic to precede every cholecystectomy by removal of the appendix. To do that consumes but a few minutes and



Figs. 5 and 6. Note clamping and ligation of pedicle and separate ligation of cystic artery.



Figs. 7 and 8. Note insertion of drain along gall-bladder bed to site of cystic stump. Note closure with interrupted sutures and drain in extreme upper angle.

one is then sure that the patient will not have to return at some subsequent date in order to have an operation for appendicitis.

"In respect to the method of closure of the wound: the paramedian incision described by Dr. Dealy is one I have always liked, but since we had Dr. Pool over here, when he spoke about his zipper stitch, I have used that particular type of stitch quite a

good deal and like it very much indeed, particularly because in closing wounds of the upper abdomen there frequently is considerable trouble with the sutures pulling out. With that stitch, which, as you may recall, consists in drawing three or four stitches through the peritoneum, followed by a fourth stitch which passes not only through the peritoneum, but through the muscle and the external aponeurosis as well, and is then drawn tight, one does not have nearly as much trouble with the stitches tearing out of the peritoneum as he does the other way. Unfortunately, one cannot use that stitch if the rectus muscle is retracted outward."

DR. JOHN M. SCANNELL:—"It is difficult to add anything to what Dr. Dealy has brought out. This paper has been presented with the thoroughness that characterizes all of the doctor's work. What I am about to say will be more in the line of emphasis of the points mentioned by Dr. Dealy, as well as those referred to by Dr. Barber. To my mind, one of the very important things in aiding in arriving at an accurate diagnosis is a well-taken history. We cannot emphasize that too much and talk about it too much, as Dr. Barber has pointed out. To my mind, it is the most important helpful single factor in making a diagnosis of gall-bladder disease. Years ago we used to discourage people from going to the x-ray man because it was more harmful than helpful, until the Graham-Cole test was devised. That has been a great help, though it is by no means 100 per cent. accurate. I can recall several cases where the test showed a normally functioning gall-bladder and at operation a great deal of pathology was found."

"Dr. Dealy referred to the difficulty experienced at times in determining whether a stone is or is not present in the common duct. A little thing that has helped me when I have had this decision to make is a Cameron lamp with a curved mirror that can be inserted through the foramen of Winslow. The common duct can be transilluminated in a certain percentage of cases. Where the duct is very much thickened, the light will not show, but by the aid of the light I have seen little stones floating in the common duct, and in these cases I would not have drained had I not seen the stones."

"Dr. Dealy spoke of appendectomy. The appendix should, of course, be removed because the duodenum, the gall-bladder, and the appendix are on the same line of lymphatics and usually are infected at the same time. The appendix, however, should not be removed in the bad risk cases. We decide that before we start to operate."

"A factor in safety that I think is well worth mentioning is the endeavor to avoid as far as possible the occurrence of post-operative pneumonias and other complications following not only cholecystectomy and cholecystostomy, but all upper abdominal surgery. Pneumonias and pulmonary complications are far more frequent in surgery in that region. I think that the abdominal bandage that we ordinarily put on is far too tight, and I believe if we are to diminish the occurrences of these pulmonary complications to a great extent, it is advisable to let up on the adhesive plaster that chokes off the abdomen and inhibits the action of the diaphragm. That together with CO₂ oxygen inhalations will, I think, help considerably in this direction. I believe that oxygen inhalations are not used half enough. The

resuscitative apparatus that they use in the maternity wards is ideal for giving oxygen inhalations. If the nurse is instructed to give the patients a few inhalations every hour so as to get them to take full breaths, it will help to obviate some of the postoperative pulmonary complications of cholecystectomy."

"I have used the transverse incision for the last ten years and during that time have seen no good reason for discontinuing that type of incision."

DR. F. N. DEALY:—"In regard to these negative cases as determined by x-ray examination: when I said 70 per cent. of positive findings I meant by that that as the result of x-ray examination the radiologist reported a pathological gall-bladder, but it may be that you cannot see anything in the plate. That is the situation. It does not mean a positive shadow, or positive stone, or anything else which shows in certain cases; but I meant persistent non-visualization of the gall-bladder by x-ray, which I consider a positive result, and when I say negative results, I mean by that that they report a perfectly normal gall-bladder as a result of the x-ray determination. That comes to about 30 per cent. of the cases submitted. In those cases particularly one can get a positive diagnosis through the crystals and bilirubin calcium pigment, but the difficulty there is to obtain the co-operation of the laboratory, to get somebody interested enough to look for those things. The results of that test as reported in the literature are amazing. I have tried to carry that out in some cases and have had some results, but the matter of co-operation is the difficult thing."

"In regard to having a gastro-intestinal series in every case: the only answer to that (I realize the expense that would entail) is if I were to have my gall-bladder removed, I think I would want a gastro-intestinal series done first, and I believe Dr. Thomas probably would also."

"As far as removing the gall-bladder from the fundus to the cystic duct is concerned, I think it depends entirely on the case that is being taken care of. I appreciate that in a good many cases it is advisable to remove the gall-bladder from the fundus, and that ordinarily it is a cleaner job when done from the cystic duct upward. I think the point should be emphasized that in removing the gall-bladder by starting from the cystic duct, you must not be satisfied with leaving the common duct uninjured, but must be sure that the hepatic duct is not injured, because as you separate the gall-bladder from its bed and tie off the cystic artery, you are working within a millimeter or so of the hepatic duct without realizing perhaps that you are in its vicinity, and it is the simplest thing in the world to injure it."

"In regard to the rectus incision, I would say that we have had some return clinics at St. Vincent's Hospital and, as a result of our experience, we have abandoned the muscle-splitting incision. I think the work done there is, on the average, good, and compares favorably with that done in other institutions. We have had a tremendous number of hernias and a tremendous number of nerve injuries which have been most disappointing, and as far as we can find from our follow-up, since abandoning the muscle-splitting incision we do not get quite as many of those complications; in fact, they are very much fewer."

Case Reports*

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CASE No. 774R. Female—age 33 years—librarian—single. This lady came to my office in January, 1931, complaining of dull pain in right lower quadrant of abdomen. She gave a history of pain of this type over the past ten years. Pain has been recurrent at intervals of almost three weeks and was occasionally accompanied by nausea. There had been no vomiting. Pain did not radiate. Patient gave no history of urinary symptoms or constipation. The present attack started January 20, 1931. At the time of admission to hospital, pain was very slight. Menstruation had been normal except for slight dysmenorrhea. Last period was January 10, 1931. Previous history was negative except for frequent attacks of tonsillitis.

Physical examination was essentially negative except

for some tenderness on deep pressure over McBurney's point. Tonsils were enlarged but not cryptic. Few cervical nodes were palpable. A harsh systolic murmur not transmitted was heard over the aorta. Lab. examination of blood and urine was not significant. Laparotomy under gas-oxygen-ether anaesthesia was done January 28, 1931, the day after admission to hospital. A right rectus incision was made. When caecum was examined, appendix was located medial to it—in the right lower quadrant, about 3 inches long and 1 inch in diameter. Surface was clear and glistening and contents appeared to be a viscid substance. Appendix was removed by clamping at base and inverting stump with purse-string suture. Abdomen was closed without drainage.

Pathological report revealed appendix to be involved in mucocoele. Grossly walls of appendix were about 3

* Presented before the Queensboro Surgical Society, at Forest Hills, March 21, 1932.

mm. in thickness. Mucous membrane was injected and atrophic. Contents were a glassy tenacious mucus.

Microscopically there was extreme glandular hyperplasia of mucous coat with almost complete atrophy of lymph follicles. The cells were elongated with clear highly refractile cytoplasm and numerous goblet forms. The subjacent muscularis showed a very extensive fibrous thickening. There were wide areas within the muscularis in which there were degenerative remains of mucus-producing cells. Free epithelial cells could be seen in varying stages of degeneration in outlying muscle tissue. Convalescence was uneventful and patient was discharged from hospital in ten days.

One year later, patient was seen and had had no symptoms referable to abdomen.

Case No. 766S. Female—age 37 years—married—housewife. This lady came to my office early in January, 1932, complaining of metrorrhagia of three months duration. Patient had experienced no cramps and only occasional pain. Abdominal examination revealed an enlarged uterus. Patient was admitted January 25, 1932 to hospital with tentative diagnosis of inevitable abortion.

History obtained at hospital revealed bleeding for past six months at intervals of one to two weeks without pain. The last three months' bleeding had been slight but continuous with occasional pain and some clots. Bleeding, at present, very slight. Last period was about August, 1931. Previous to that, menses had been regular and normal in character. Patient had had no morning sickness or breast signs of pregnancy. The rest of history was essentially negative, except for operation for perforated appendix with local abscess four years ago, which had been followed by an uneventful convalescence.

Physical examination, except for uterus, was negative. Haemoglobin was 70 per cent—Red count 4,200,000, urine was negative. On admission vaginal bleeding had ceased. A gentle vaginal examination revealed cervix patent and tissue which felt like prolapsed cord to tip of examining finger. On the third day after admission, a bimanual examination was done and uterus was made out to be hard and irregular. What appeared to be prolapsed cord on first examination was found to be a fibroid polyp projecting out of the cervix with a narrow pedicle about an inch long.

Patient was operated on February 2, 1932, under spinal anaesthesia which was supplemented with open ether, because of partial failure of spinal. Cervical polyp was removed via vagina with actual cautery. Base of pedicle extended one inch into cervical canal. Abdomen was then opened in mid line and supracervical hysterectomy done. Uterus was about three times normal size and body was entirely involved with nodular fibroid tumors. Left ovary was slightly enlarged but not cystic. Right ovary was adherent. No other pathology noted. There was no evidence of adhesions in R lower quadrant from previous appendiceal abscess. Abdomen was closed without drainage. Convalescence was uneventful and patient was discharged from hospital twelve days afterward, feeling well. Patient has been seen at intervals, and except for slight vaginal discharge, is symptomless.

Case No. 2154R. Male—23 years—white—unemployed. Admission diagnosis—Gunshot wound of the abdomen. Final diagnosis—Bullet wound of the abdomen—perforation of the gastro-hepatic omentum and pancreas—pancreatic fistula.

Operated on March 11, 1931—discharged, April 25, 1931. In the hospital forty-five days. Condition on discharge improved.

History: Patient had been out of work for over a year—had been brooding and obsessed with the idea of being killed or of killing himself. The idea had been constantly worrying him. Finally and suddenly he shot himself—March 11, 1931. He was brought to the hospital at once and prepared for operation. Previous history is essentially unimportant except for the fact that the patient suffered an attack of influenza a few years ago.

Admission Note: "Patient stated that he was tired of everything, and about six o'clock this morning while sitting at home, pressed a revolver (Colt 25 cal.) against his abdomen and shot himself. He was found on the floor in shock. Patient at the present time is in moderate shock and complaining of severe pain in the abdomen and also in the left shoulder." Examination revealed—rigid abdomen—bullet wound in the epigastrium, just to the right of the mid-line and just below the costal margin. Tenderness on palpation was marked in the epigastric region. Powder marks around the wound. Abdomen not distended. No fluid wave. Wound one quarter of an inch in diameter. Tetanus antitoxin 1500 units given. Examination by writer at 8:15 P. M.—"self-inflicted bullet wound over duodenum, probably directed toward the left—no point of exit. Patient does not appear in severe pain. Abdomen is rigid (of boardlike type). No dullness in flanks. Tympanitic throughout. Definite tenderness in the left upper quadrant. Impression: Perforation of hollow viscus, probably stomach. Advise laparotomy at once."

Operation March 11, 1931—under gas-oxygen-ether anaesthesia, two hours after admission. Incision was from the ensiform to the umbilicus in midline. No gas escaped on entering the abdominal cavity. Stomach was inflated and no injury to it noted. Head of pancreas showed a perforating wound on its anterior surface. This wound was both palpated and probed for bullet. None was found. The rest of the abdomen was examined carefully and except for a wound in the gastro-hepatic omentum no other injury was noted. A double purse-string was placed in the peritoneal covering of the pancreas and a Penrose drain was inserted down to the wound of the pancreas. Abdomen was closed in layers, using No. 0 chromic catgut continuous for peritoneum and fascia. Three B & B tension sutures used. Convalescence was stormy. Temperature rose to 104° on the third day and pulse to 140, gradually descending to normal on the eighth day and remaining so until the eleventh day when the temperature rose to 105° and the pulse to 130. Temperature then continued of a septic type for the ensuing week, rising to 102° in the evening and dropping to 99° in the morning. Pulse at this time remained at 90. During the following week, temperature subsided and reached normal on the thirtieth day postoperative. Immediately postoperative, intravenous fluids were given in quantity. Penrose drain was gradually shortened and removed on the ninth day postoperative.

Slight discharge of brownish color, no odor, noted the fourth day postoperative. Patient was dressed daily and discharge increased in quantity. The twelfth day postoperative, discharge had developed sweetish odor. Fat digestion of the superficial fascia was noted. This continued and the abdomen thinned out perceptibly until April 4, 1931, when the fat necrosis abated and the wound began to heal by granulation. Vomiting was persistent for the first three weeks postoperative, during which time intravenous glucose was given freely and gastric lavage used.

On discharge, wound was healed except at the lower

angle where there was a small amount of granulating tissue.

Case No. 1218S. Male—age 19 years—no occupation—admitted to general ward, February 22, 1932, with diagnosis—Perforated peptic ulcer.

Admission note: Onset February 22, 1932, at 3:00 P. M.—had sharp cramp-like pain in umbilical region and right lower quadrant.

Since then, has had intermittent pains—only vomited after taking mixture given by druggist at 4 P. M. Bowels moved in the morning. Patient was in shock—board-like rigidity present in both lower quadrants—where there was extreme tenderness—no masses palpable. Patient had had similar attacks during the past five years, but not as severe. White blood count, at this time, 19,200 polys, 90 per cent, lymphocytes 10 per cent. A few hours later, attending physician confirmed previous examination, but added that entire abdomen had a board-like rigidity. February 24, 1932, patient's family requested private care—examination was done at 1:00 P. M. same day. Symptoms had abated somewhat. Abdomen was moderately distended and held rigid throughout. Maximum tenderness in right lower quadrant. Definite fluid wave in flanks. Had expelled brownish fluid following enema, but had not passed gas by rectum. Rectal examination revealed mass in right pelvic space not well defined. Impression acute intestinal obstruction. Clysis of 1000 cc. of 5 per cent glucose was given. Blood donors typed and patient prepared for spinal anaesthesia at once. Previous history—patient had been operated on at this hospital thirteen years ago for gangrenous appendicitis with localized abscess. No previous history of urinary disturbances. Bowels had been regular. Throughout past sixteen years, patient complained of abdominal pain at frequent intervals. The rest of his history was unimportant. Physical examination, except for noting of wide right rectus scar in right lower quadrant, was similar to progress notes, and revealed no other physical defects.

Laparotomy performed February 24, 1932, at 5:00 P. M., under spinal anaesthesia. Old appendix scar removed and four inch incision made through deep scar tissue into peritoneal cavity. About one quart of clear yellow fluid evacuated by suction. A loop of ileum about ten inches in length and markedly distended was found in right lower quadrant. Ileum proximal to this loop was distended and distal to it collapsed. A firm band of adhesions about three-eighths of an inch in diameter beginning at site of old abdominal scar and firmly adherent to anterior abdominal wall extended backward, completely encircling and binding loop of strangulated ileum. A second band about one-quarter of an inch in diameter obliterated the mesentery of ileum by binding gut to base of mesentery on posterior wall of abdomen. The gut was entirely freed and loop stimulated with warm laparotomy pads. Color and peristalsis were restored. Remaining gut in right lower quadrant was examined for constrictions. Slight petechial hemorrhage was noted over strangulated gut and ileum proximal to it. Abdomen was closed without drainage. Patient reacted well and did not complain of further abdominal pain during convalescence. There had been no vomiting following operation. Highest temperature postoperative was 102 degrees—pulse: 100, which reached normal the fifth day postoperative and remained so until discharged. Wound healed by primary intention and patient was discharged thirteen days after operation.

Patient has been seen since at my office and is well and has no complaints.

216 Jackson Avenue.

Discussion

DR. W. H. BARBER:—"I would like to ask Dr. Stein if there was any fat necrosis in the gunshot case."

DR. I. L. STEIN:—"Yes, there was very definite fat necrosis."

DR. BARBER:—"As I understand it, that patient had a high temperature for quite some time, is that correct?"

DR. STEIN:—"Yes, for thirty days in the hospital."

DR. BARBER:—"Was there any bloody fluid in the abdomen?"

DR. STEIN:—"There was a thick, brownish, sweetish-odored discharge that was quite abundant, from the abdomen."

DR. BARBER:—"You drained him freely, didn't you?"

DR. STEIN:—"I used just one narrow Penrose drain which was introduced down to the pancreas."

DR. BARBER:—"Anteriorly? There was none posteriorly?"

DR. STEIN:—"Anteriorly only."

DR. JOHN M. SCANNELL:—"I would like to speak of a case, but it is not one of gunshot wound of the pancreas, something I never have encountered before. I recently removed the tail and body of the pancreas for hypoglycemia. It was a very long and interesting case, in which the clinical diagnosis was adenoma of the pancreas. The patient was a nurse at the Greenpoint Hospital. Operation was performed two months ago and the patient died three days ago. Up to that time she was doing well. The blood sugar was 60 before the operation and 115 after. She died suddenly of hemorrhage, after being out of bed for three days. Autopsy showed a ruptured aneurysm of the splenic artery. The difficulty during the operation in this particular case was with the splenic vein which was difficult to separate from the upper border of the pancreas. Autopsy also showed there was some sepsis at the time, although there was no fat necrosis around the wound, and the site whence the pancreas was removed had healed. That experience has taught me that with the next pancreas I remove (we do not take out many of them, perhaps one or two in a lifetime) I shall also remove the spleen, and tie off the splenic artery and vein. That, I think, is a very much safer procedure to carry out."

DR. I. L. STEIN:—"I presume that because the first two cases reported are more or less commonplace they did not receive any discussion, but they were selected because they had a little something strange about diagnosis."

"In reference to the case of gunshot wound of the head of the pancreas: I feel that the average surgeon is a little wary about digging into it, or disturbing it. However, this summer in Vienna, I watched Dr. Finsterer dissect chronic indolent ulcers out of the pancreas without fear of any marked setback. That, in end result of sub-total gastrectomy."

DR. W. H. BARBER:—"Did he use a cautery?"

DR. STEIN:—"No, he carried out his dissection with a sharp scalpel. He went into the pancreas and very gently removed the indolent ulcer from where it was imbedded. He stated that he did that in his malignancies, removing large sections of liver, and also a certain amount of the pancreas where the carcinomatous involvement entered the pancreas."

"I thought this case of gunshot wound of the pancreas was especially interesting because on opening the abdomen, and exposing the head of the pancreas, the bullet wound, one-quarter of an inch in diameter, could be plainly seen going straight back through the head of the pancreas. Otherwise, the abdomen was undisturbed. The bullet had traversed through the abdomen and lodged back against the spinal column and remained there. The boy began to show signs of getting better after he had been in the hospital for thirty days. During the remaining two weeks that he was in the hospital, he was practically symptomless and went home in good condition, and I believe that he has remained well up to this time."

Effect of Digitalis on Arrhythmias Other Than Flutter and Fibrillation of Auricles

Charles W. Barrier, Fort Worth, Texas (*Journal A. M. A.*, Sept. 3, 1932), reports that in two cases of supraventricular tachycardia, digitalis was given by vein and was followed by slowing of the rate of the paroxysm and the restoration of sinus rhythm. In one case the effect was supposed to be due to direct action of digitalis on the heart muscle. In the other case the effect was thought to be due to increased vagal tone as the heart under digitalis behaved as when the vagus was mechanically stimulated and because digitalis failed to abolish the paroxysm after the vagus was paralyzed by atropine. In extrasystolic arrhythmia the use of digitalis is occasionally of benefit in relieving both the disturbing rhythm and the symptoms of heart failure. It will abolish extrasystoles more frequently than the literature would indicate. Cases are reported in which all three types of extrasystoles were abolished. The author believes that digitalis is probably effective through its action on certain factors involved in circus movement.

Case Report—Cylindroma of Cheek*

W. HOWARD BARBER, M.D., F.A.C.S.

ATTENDING SURGEON, BELLEVUE AND JAMAICA HOSPITALS

New York, N. Y.

D previously reported in the Transactions of the New York Surgical Society and published in the *Annals of Surgery* for February, 1932. This 14-year old lad when presented last fall had been biopsied for a tumor of the cheek which had recurred to the size of an irregular and indistinctly localizable mass about 4 cm. in diameter. This mass both subcutaneous and submucous was first thought to be thyroid tissue but upon further study and consultation was definitely described as a cylindroma. Dr. Carl Eggers reported



J. S., 14 year old boy showing site of cylindroma in left cheek as reported in the *Annals of Surgery*, Feb., 1932, pp. 255-259 (before the New York Surgical Society), and the present relative size of tumor after radiation. Note, also, the slightly enlarged glands in left side of neck.

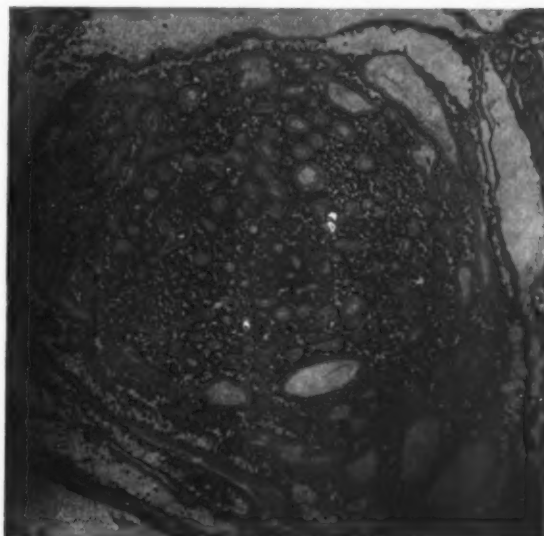
a similar case which had recurred following a radical dissection of mass and glands of neck, failure finally resulting. This patient has been referred for radiation and to date shows a definite recession of tumor to one-half former size and disappearance of glands which one month ago appeared slightly larger in the left submaxillary and anterior sterno-cleido-mastoid regions. It is too early to prognosticate the final result of this treatment but the evidence of improvement and the rarity of the tumor justify the presentation of this case at this time.

121 East 60th Street.

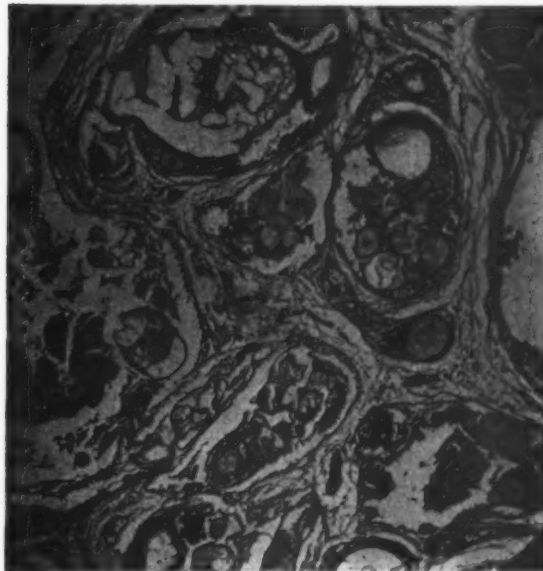
Discussion

DR. ALBERT L. VOLTZ:—"About 3 months ago this boy was referred to me by Dr. Barber. At that time he had the mass which you saw in the lantern slides; I did not measure it to be exact, but I should say that it was almost as large as a walnut. I gave it high voltage x-ray treatment, 204 kilovolts, 4 milliamperes filtered through three-quarters of a millimeter of copper and one millimeter of aluminum at 40 centimeters distance. He received ten minutes' treatment every two days until two and a half erythema doses were given over the mass and neck glands.

* Presented before the Queensboro Surgical Society, at Forest Hills, March 21, 1932.



From the *Annals of Surgery*, p. 256, Feb., 1932. Low Power microphotograph to show a lobule composed of pseudo-alveoli at the periphery and a network of loose epithelial cells in the center. The hyalin bodies can be seen to bear no special relation to the cells.



Annals of Surgery, p. 256, Feb., 1932. Low power microphotograph to show loose areolar structure with cylindroma hyalin bodies in the pseudo-alveoli resembling thyroid alveoli.

I then had him return every two weeks or so for observation, and the mass has been shrinking. I saw him tonight for the first time in three weeks and note that it is still shrinking. There are apparently four little discreet nodules that you can feel there now which I believe could be radiated still further with 204 kilovolt treatment, or you could insert radium seeds or radium needles, and I believe that the mass would disappear entirely. The treatment I gave included the glands of the neck on the left side; it was all included in the area. Every safeguard was

taken to protect the thyroid, the parotid, the teeth, and the hair, and I would say that he received that radiation through a very small portal, including, however, the glands of the neck.

"I feel hopeful about the ultimate recovery of this case, but he should continue under observation over a period of months for possible metastasis to the neck or chest, but I don't know what the future has in store for him."

DR. A. A. DE POTO:—"This boy first came to the surgical clinic. At that time a diagnosis of sebaceous cyst was made. The tumor felt cystic and was attached to the skin. For a time operation seemed to be successful, but about two months later I saw the boy at the clinic, and examination revealed that the mass had returned. I still felt that it was a sebaceous cyst that hadn't been completely removed. So we attempted to remove the mass, and went around the old scar (at the time there was no involvement of the glands of the neck), and in separating the mass that was under the scar it didn't look like a sebaceous cyst. The boy returned to the clinic for treatment and seemed to have a paralysis of the left side of the face. There was an increase of edema for three or four days after the operation, and we decided that the best thing to do was to admit him to the hospital in order to see what could be done for him. The rest of the story you have already heard."

DR. W. H. BARBER:—"I saw this case about a month ago and thought that things were going badly; the tumor was larger than ever, and the glands of the neck were very prominent. I called Dr. Voltz and said that I believed we were on the wrong track. However, he kept at it, and now reports the growth has receded. It was very much more tender, a little red; and the glands have reduced in size very markedly."

"I would like to ask Dr. Voltz what his prognosis is in this case, based on the treatment thus far, and on any previous experience he may have had in similar conditions, and also why he used x-ray treatment instead of radium, and if he does not think radium would be better to use over the mass and in the back of the neck as well."

DR. ALBERT L. VOLTZ:—"I would like to ask Dr. Barber the nature of this growth, the derivation of it."

DR. BARBER:—"It is an epithelial tumor; it is in a class with carcinoma."

DR. VOLTZ:—"Would it be regarded as squamous cell or basal cell type?"

DR. BARBER:—"More like squamous; it is epithelial."

DR. VOLTZ:—"The squamous cell types of carcinoma are the most resistant that we have to deal with. They will stand anywhere from ten to twelve erythema doses to the cell tissue in order to produce destruction. The basal cell, on the other hand, may respond to three erythema doses. This tumor on the skin surface received only two and one-half erythema doses, and it is absolutely impossible to give the amount of radiation on the surface and conserve the skin and still produce the effect necessary in a squamous cell lesion. So, I feel, from that standpoint, that if this is correct, if this has a structure similar to the squamous cell type, we have only temporarily put the quietus on it, and that further radiation should be tried with a view to further regression and reduction of the nodules to the smallest possible size, and then I think they will respond very well to some radium seeds, perhaps one and one-half millicuries, to produce a liquefying necrosis. That would, in addition to the x-radiation, produce the required destruction of the squamous cell type of lesion. I would, therefore, recommend that he be continued on x-ray treatment for, say, another ten treatments, and that before the effects of the x-radiation die out, say, in about six weeks, at the end of a three-week period, I would recommend that radium seeds be inserted into the nodules. In that way I believe we might accomplish still further reduction in the size of the glands of the neck; they must be watched and should be included in the x-ray treatment field, and the chest should be x-rayed to see if there is any sign of chest metastasis."

DR. BARBER:—"Dr. Voltz has charge of that. We may have an opportunity later of bringing this case before you again."

Case Reports*

FREDERICK C. COURTEN, M.D., F.A.C.S.

ASSOCIATE ORTHOPEDIST, MARY IMMACULATE AND LUTHERAN HOSPITALS;
ASSISTANT ORTHOPEDIST, JAMAICA AND QUEENSBORO HOSPITALS

Richmond Hill, N. Y.

THE following cases have been selected from the orthopedic service of the Jamaica Hospital and followed for a sufficient length of time since discharge to permit of fairly accurate conclusions as to the end results.

N. L. The first case is one of tuberculosis of the spine in a child. The X-ray showed an early destruction of the 12th dorsal and 1st lumbar vertebrae. The patient was four years of age when first seen in March, 1929. There was a history of moderate pain in the lower back and a progressive weakness of both legs. Frequent night cries were noted. No history of trauma was given. On physical examination a slight kyphosis was seen at the site of disease and muscle spasm was palpable upon the slightest motion. No neurological findings were present. The Mantoux was strongly positive but nothing of importance was found in the blood examination. Operative treatment was advised but the parents refused permission. Instead a plaster jacket was applied, although this form of treatment for tuberculosis is now regarded as quite obsolete. At the end of six months the jacket was removed and the kyphosis was found to have increased. Operation was now insisted upon and with the parents' consent the spine was fused by the Hibbs' method in September, 1929. The area of arthrodesis was extended from the 10th dorsal to the 3rd lumbar vertebrae inclusive, the rule

being to fuse from two vertebrae above the site of disease to two below inclusive. The child was kept recumbent and supported in a Taylor spine brace. The postoperative course was uneventful. At the end of five months the area of fusion was tested and found to be solid. There was no pain nor muscle spasm and the pain in the legs had disappeared. Eight months postoperatively the brace was left off at night and entirely removed at ten months. The patient has been discharged, cured, and to date there has been no return of symptoms nor increase in kyphosis.

T. McG. The second case, a male of 19 years, was admitted to the hospital 3-30-30 and discharged 11-2-30. As the result of an automobile accident, he was admitted to the orthopedic service suffering from a compound fracture of the left femur with marked overriding and also a compound fracture of the right ilium. Upon admission he was suffering from severe shock and marked loss of blood. Treatment toward combating the shock was instituted immediately and a prophylactic dose of twenty cc. of tetanus perfringens vaccine was administered. But, notwithstanding, a gas bacillus infection developed in both wounds. A second dose of 150 cc. of the vaccine was administered intravenously and followed eight hours later by another 200 cc. Three blood transfusions of 500 cc. each were given two days apart. Wide open drainage was obtained at the site of the wounds but amputation of the leg was

* Presented before the Queensborough Surgical Society, at Forest Hills, March 21, 1932.

not resorted to. Mild traction was applied through a Thomas splint but no extensive manipulation was thought advisable. Several blood cultures were taken none of which were positive. The blood count showed as high as 17,300 white cells, 87 per cent polymorphonuclears and 35 rods according to the Schilling test. The temperature was very irregular, varying septically between 101 and 104 degrees rectally for about twenty-eight days, gradually subsiding to normal limits. By this time the drainage had lessened very much. Manipulation of the fragments was attempted but some evidence of union was encountered and it was not deemed advisable to risk stirring up any further infection by forcible manipulation. A plaster Paris spica was therefore applied. This was removed and a Caliper walking brace substituted on 10-1-30. The patient was now allowed out of bed. He was discharged 10-14-30 and referred for physiotherapy. Healing of both wounds is complete but the knee has become ankylosed. An arthroplasty may be done later. Union of the fracture is solid and no support is necessary.

A. D'L. The next case is that of a male about eighteen years of age who was struck by an automobile while he was riding a motorcycle. He was admitted to the hospital on 11-5-29. There was an extensive laceration of the entire leg from the knee to the ankle over the antero-medial aspect. Both tibia and fibula were comminuted at the junction of the middle and lower thirds and the four fracture ends protruded through the wound. He was picked up at the site of the accident by a physician who described finding several large fragments of bone on the ground. Later measurement showed the loss of bone to be 1½ inch. The circulation in the foot was poor although present and slight motion was present in the toes. Amputation was strongly advised but, nevertheless, conservative treatment was instituted. An immunizing dose of 20 cc. tetanus perfringens vaccine was administered stat. The patient was immediately taken to the operating room and a débridement of the wound performed. Then the end of the lower fragment was sharpened and inserted into the medullary cavity of the upper fragment. A slot was then cut measuring ¾ by 1½ inches at the fracture site to provide any necessary drainage of the medullary cavity. The soft tissue was retracted and the tissue packed open with a large vaseline gauze plug. Sterile dressings were applied and the leg placed in a fracture box. The usual postoperative treatment was given aimed toward combating shock. The day following operation the patient's general condition was good but there was marked bleeding. This was controlled by a pressure dressing. Circulation in the foot had improved markedly. Three days later the temperature had reached 102 rectally with moderate swelling of the foot and leg but no free pus appeared. Two weeks postoperatively a cast was applied but still there was no free pus. The blood count and temperature at this time were normal. But four weeks postoperatively pus did appear in moderate amount. The temperature and blood counts were still normal, however. Weekly dressings were done thereafter until 1-26-30 when the patient was discharged and sent to the clinic. The dressings were continued in the clinic with a gradually lessening discharge from the wound but not until 4-19-30 was the leg sufficiently firm to permit of a walking cast which was applied at that time. About two months later a brace was substituted. The patient now bears full weight in the brace but a slight spring still remains. After a lapse

of about eighteen months following the final closure of the wound a bone graft will be performed. I still hope, however, that union may become complete before that time.

W. M. The last case is being presented to show a further step in the rehabilitation of a severe paralysis following poliomyelitis. At a previous date a transplant of the biceps femoris was done on his left leg which is now functioning quite well. But he still needed a long leg brace to stabilize his flail right knee. This was cumbersome, unsightly, and a physical as well as a mental handicap. Therefore operation was advised and he was admitted to the hospital on 1-12-31. The day following admission a knee fusion operation was performed. This was accomplished by exposing the knee joint anteriorly by division of the infrapatellar ligament. The cartilage was removed from the joint surfaces. The patella was then denuded and inserted into previously formed sockets in the tibia and femur. Closure was effected in layers and a plaster Paris spica applied. The postoperative course was uneventful. Temperature and blood counts remained within normal limits. Acidosis was combated by glucose before and after operation. Twelve days postoperatively the sutures were removed and the wound found cleanly healed. He was then discharged home and advised to return to the clinic for follow-up treatment. On 3-7-31 the pelvic portion of the cast was removed. On 3-28-31 weight bearing was begun in the cast and with crutches. By 5-7-31 he was able to walk without crutches but still in the cast, the foot portion having now been removed. By 6-25-31 union was found to be firm. He has been walking several months without any support except for a crutch which he is now able to dispense with. The only handicap comes in sitting down but he is rapidly learning to compensate for this.

9427 118th Street.

Discussion

DR. H. C. COURTEN:—"The first case that was shown and the method of treatment represents a real advance in the treatment of tuberculosis of the spine. It is the outgrowth of the last 15 to 18 years of experience along that line. The disease, as you know, is confined to the body of the vertebra probably because of the cancellous structure of that portion of the vertebra and the plentiful blood supply. The kyphosis, or deformity, results from the softening that takes place in the body and the weight of that portion of the body which is above. The principle of the fusion operation is to produce a living bone splint in an area outside the infected region of the spine. The posterior elements of the vertebrae are not attacked to any extent, largely because of the vitreous nature of the bone, and this portion of the bone lends itself well to the production of a fusion.

"The operation is both tedious and long, and must be carried out with careful attention to technique, not only aseptically, but removal of all portions of periosteum and cartilage from the area which you expect to fuse; otherwise fusion will not occur. This youngster in the course of a year following his operation was up and around, free from pain, free from symptoms, and now nearly two years after operation is regarded as a cured case. By the older methods of treatment it was not at all uncommon to see these cases drift on for years and years and finally wind up with the typical kyphosis that so many of these older cases of tuberculous spine present.

"The operation itself is of value in a great many other conditions, notably in dislocations of the spine accompanied by instability. This is particularly noted in dislocations of the fifth lumbar vertebra on the sacrum, a condition which we call spondylolisthesis. That occurs many times among those who are heavy weight lifters and with those who, to begin with, have an anomaly in the relationship between the lumbar vertebrae and the sacrum. That is seen in the right angle in which the sacrum approaches the lumbar vertebrae. Ordinarily, there is a gentle curve; the fifth lumbar vertebrae sets on a definite foundation. In these

abnormal cases, we find that the lumbar vertebra comes down to a point, then shoots back over the sacrum almost at a right angle. These make up the unstable cases, and are particularly amenable to treatment by this fusion method. It is not difficult to get sufficient bone from the back of the sacrum and the spinous processes, if necessary the fourth as well as the fifth, to lay down a bed of firm living bone.

Many of these little polio cases we run across where both lower extremities are involved are susceptible to some form of operation such as this one was. This is a case I showed here last year, I think, illustrating the results of a transplant of the biceps to compensate for a paralyzed quadriceps which converted a knee without power of extension into one that the patient could extend, but that left him with a flail right lower extremity. There were two alternatives: he either was going to wear a brace for the rest of his life, or he could have this type of fusion operation. We find that a very large percentage of these badly paralyzed children and their parents will elect such an operation, provided the matter is explained to them. Usually, we find that if most of the paralysis is confined to one side and there is some muscle power on the other, the more badly paralyzed limb grows more slowly than the other, and that the shortening is an actual advantage when it comes to fusing a knee, from the standpoint of walking, as it obviates the necessity of putting a lift on the other shoe.

"These cases of compound fracture were both bad cases. One of them was a gas infection. It was not definitely determined whether it was a Welch bacillus or not; it resembled a Welch bacillus, and there were general toxic symptoms which were severe, but did not appear to be quite as severe as those of the Welch bacillus, and that may have been due to the preliminary injection of 20 cc. of tetanus perfringens antitoxin. We think that the perfringens antitoxin has definite value in bad compound fractures or bad wounds where there is a possibility of gas infection. At any rate, it has seemed that way from our experience. Another point that comes out in connection with them is the advantage of conservative treatment. There is no doubt whatever in my mind that hundreds of thousands of men have traveled around throughout their lives minus some part of a leg or an arm or what not when they might just as well perhaps with more modern or more conservative treatment have kept that leg or arm with them. I have always thought that any kind of an arm or any kind of a leg that will bear weight is better than an artificial one. For that reason, whenever the circulation is reasonably intact in the distal portion of the limb involved, no matter how bad the fracture or how bad the laceration, conservative treatment can be followed, provided the wound is left open and treated aseptically at the time of injury."

DR. JOSEPH WRANA:—"I would like to inquire as to what happens to the torso of these youngsters who have a fusion operation."

DR. W. H. BARBER:—"I would like to ask if anybody present has had any experience with the Albee operation. I think that in his earlier days Dr. Courten was under the influence of the Albee method."

DR. H. C. COURTEN:—"Yes."

DR. BARBER:—"I am glad to see that he is now using the Hibbs technic. I had some experience with that years ago when it was first being used. I was interested in that type of work at the time. The idea was to use bone of the spinous processes, tubercles, and transverse processes rather than to graft bone from the tibia. It has always seemed a rational procedure."

"As a matter of principle, I would like to inquire if the doctor ever plates a recent compound fracture that is possibly contaminated, but not necessarily infected, one that you cannot get to 'stick.' Given such a case, would he have any hesitancy about resorting to plating?"

DR. A. A. DE POTO:—"With reference to the young man with the very severe injury to his leg you saw here with the brace: I saw him the first time he was brought into the hospital. The injury was a very severe one. The upper fragments of both bones of the leg were sticking out on the inner side of the wound, and the lower third of the leg and foot seemed to be dangling down and only supported by a very thin portion of the postero-lateral muscles of the leg. There seemed to be no circulation in the leg at all. At that time I felt the only thing to do for him was to amputate the leg. However, not only conservative treatment, but consultation as well, seems a good thing to have, and when the orthopedic surgeons saw him they said they would take care of the case and that they probably would be able to give him a leg to stand on at some future time. The result you have seen. I was agreeably surprised to see the condition of this patient tonight because I felt certain that there was nothing left but to amputate the leg."

DR. F. C. COURTEN:—"In answer to the question as to whether there is any disturbance in growth in cases of spine fusion, it is hard to determine but there is probably very little

interference. Just how tall the child would have grown had his spine been normal is difficult to estimate. However, there is no appreciable lack of growth in proportion to the rest of the structures of the body."

"In regard to plating a compound fracture, one must be guided by the individual case. If infection is present, the use of a plate is entirely out of the question. Even if the wound is clean and heals up promptly I do not believe that many of these cases require plating. Most compound fractures can be reduced by manipulation and may be interlocked by open operation if necessary, leaving the wound packed wide open. Should union fail to take place a bone graft may be done at a later date."

Inheritance of Temper

While it may be a true saying that no one can be a leader of men unless he can lose his temper, it is at least equally certain that many persons have no ambition to lead anything more exacting than a quiet life, and for this purpose an even temper is an asset. Dr. G. F. Still, writing in the *King's College Hospital Gazette* for February, mentions an investigation made by Francis Galton in 1887 to decide how far the possessor of a bad temper may lay the blame on his inheritance. Galton found that in 43 families in which both parents were good tempered, 30 per cent of the children were good tempered, 10 per cent bad tempered, and the remainder neutral, showing no marked tendency in either direction; in 25 families in which both parents were bad-tempered the number of good-tempered children was only 4 per cent, while bad-tempered children amounted to 52 per cent. As Dr. Still points out, the issue here is not simple, because the child living with bad-tempered parents is in an unfavorable environment from the start. He mentions other factors which may be detrimental to temper, such as indigestion and the exhaustion produced by a long illness. The possibility that endocrine imbalance has a bearing on temper cannot be overlooked; irritability is a common accompaniment of puberty and the menopause, and Dr. Still refers to the comfortable temper of the cretin and the myxoedema patient, and to the improvement sometimes observed in the temper of a thin child who begins to fatten.

But he concludes that we start life handicapped or blessed by a lower or higher coefficient of irritability; "we all have our flash point of anger or irritation," he says, "but in some the flash point of irritation is lower than the average." And though he grants that some, with tactful training, may acquire an artificial repression of impulses which makes a negative substitute for good temper, for those to whom ill-temper belongs by heritage and environment he has sympathy but little hope. He takes, perhaps, rather a dark view of the case. While it is true that there is a type of temperament which can be happy in any circumstances, there is another type which can be happy in some circumstances and not in others. Most of us have encountered men who were cheerful while their affairs were in good train but who became irritable and whining in the face of disaster; the cantankerous wife of an unsuccessful husband may be transformed into a delightful person by the removal of financial anxiety. Children, it has often been observed, may behave charmingly at school and yet like a generation of vipers at home. There is, moreover, a possibility that the legend of a "family temper" may become a fetish which has to be satisfied with unwilling victims. This may explain the case of a boy who constantly indulged in violent temper tantrums—"just as your uncle George used to do," he was told. His parents were sympathetic, but he made no attempt to master his rages, as they had a sound heredity reason. But his temper in manhood was unusually equable, and a friend, father of an irritable son, asked him how he had been stimulated to make this conquest. "It wasn't a conquest," he replied. "I grew out of it, or rather it grew out of me. I know it used to infuriate me when my parents moaned about the family temper, and I used to give them something to complain about." In fact he made not the slightest attempt to control his temper at home, but abroad he learnt the need of restraint.

Although inheritance may play an important part where either good temper or bad temper is a marked characteristic of the children, a large number of people belong to the neutral group of Galton's investigation; the temper of these, it seems fair to suppose, will be made or marred by circumstance, though the bias need not necessarily be permanent in either direction. Dr. Still draws attention to the intrinsic truth of the phrases "tired and cross," "fat and jolly," and to these we may perhaps add another tag to the effect that "it's easy to be pleasant when things are going right." This was doubtless invented by a neutral-tempered person during a disgruntled phase, and probably has as sound a basis of experience as the other two. The subject might repay further research; or it might not.—*The Lancet*.

Cancer*

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EXECUTIVE SECRETARY, NEW YORK STATE COMMITTEE OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

Early Diagnosis of Carcinoma of the Lower Urinary Tract

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THREE cardinal symptoms arising from the genitourinary tract—hematuria, disturbance of bladder function and tumor—should always be accorded serious consideration and thorough investigation. While any of the three may be the manifestation of numerous conditions, simple or serious, other than malignant disease, one or all are present in malignancy and the first to herald it.

If these symptoms are evident in a gross manner it is your duty to investigate them. When making periodical or complete physical examinations, have them in mind and search for them in their incipency.

Dr. Scott will discuss hematuria as this symptom is chiefly concerned with neoplasm of the kidney and bladder, and conspicuously absent in malignant disease of the lower urinary and sexual organs.

Bladder dysfunction, as frequent, painful or nocturnal urination, should be investigated before the stage of residual urine or retention has been reached. Frequent or difficult urination is usually the earliest subjective symptom of prostatic carcinoma. Tumor, however, precedes it by many months if only it could be discovered by periodic rectal examination in men over 50 years of age. Malignant disease of the testicle is not rare; tumor is its first manifestation.

While sketching this subject as a whole, let us remember that in the genitourinary tract, as elsewhere, primary malignancy and secondary malignant degeneration in neoplasms originally benign occur.

Nephroma, infiltrating carcinoma of the bladder and primary carcinoma of the prostate are examples of the former, while malignant degeneration or change occurring in benign papilloma of the bladder, teratoma of the testicle or malignant nodules in benign hypertrophy of the prostate exemplify the latter.

The onset of primary malignant disease is insidious and usually well advanced before symptoms arise to warn the patient or physician. In the secondary types symptoms are present during the benign stage, as hematuria from papillomata, enlargement of the scrotal contents, and disturbance of the urinary function in prostatic hypertrophy. The early recognition and eradication of these "precancerous" conditions will forestall inoperable malignancy.

In considering malignant tumors of the lower tract, carcinoma of the prostate is of first importance as it is estimated four of every one hundred men over 60 years of age are its victims. One out of every five cases of prostatic obstruction will prove car-

cinomatous. As mentioned before, the one early symptom of carcinoma of the prostate is tumor, to be detected only by routine periodic rectal examination of men past middle age. The apparent early symptoms which attract the attention of the patient or physician are actually late symptoms indicating a growth so advanced as to alter the bladder function or one which has metastasized, the symptoms arising from involved structures away from the urinary tract. Especially beware of "sciatica" and unilateral edema of the leg. Remember carcinoma of the prostate rarely bleeds. Some cases of carcinoma of the prostate will always evade diagnosis by the most skilled and experienced urologist. These are the large, rather soft specimens, but particularly those occurring as small malignant areas within apparent benign hypertrophy. However, I contend the vast majority should be recognized before being subjected to any method of incomplete prostatectomy. Only those cases of carcinoma so shrouded by benign hypertrophy as to be undiagnosable will profit by this treatment. Radium implantation and channeling out the obstructed urethra by some electro-cystoscopic procedure gives the longest and most comfortable palliation. If Young's radical prostatectomy is to be useful, the disease must be detected long before subjective symptoms appear.

I regret the time allotted will not allow a discussion of the features encountered in making the diagnosis by rectal palpation. Carcinoma of the seminal vesicle is thought to be secondary to carcinoma of the prostate or of the bladder.

In discussing malignant disease of the testicle three topics are of importance. *First*—examine all enlargements of the scrotal contents carefully. Most of them will be hydrocele, varicocele or epididymitis, with occasional gumma, but be SURE of this, remembering neoplasms are often accompanied by hydrocele.

Second—excepting rare cases, carcinoma of the testicle is a secondary change in an originally benign teratoma which occurs and remains within the tunica albuginea.

Third—metastasis does not occur until the malignant change has taken place, which is usually several months after the onset of the tumor. When metastasis occurs it is by way of the lymphatics of the cord to the retroperitoneal glands, not to the superficial glands of the groin.

Therefore, the message is, examine the scrotal contents carefully; be sure of the diagnosis of harmless lesions; do exploratory operations if in doubt; try to

* All the contributions under this department heading are parts of the Clinical Conference which was held at the Seventh Annual Meeting of the New York State Committee of the American Society for the Control of Cancer in Rochester in December, 1931.

remove teratoma early. When a small, quiescent tumor suddenly begins to enlarge, malignant change has occurred and only a radical unilateral dissection of all retroperitoneal glands and connective tissue is worth while.

Cancer of the penis is epithelioma occurring upon the glans and may simulate various skin lesions—early biopsy is justifiable. All benign tumors should be promptly removed by appropriate means. Early metastasis occurs in the glands of the groin, including the nodes of the femoral and external iliac groups.

Radiation therapy is useless and loses valuable time. When the diagnosis is certain a radical operation, with careful bilateral dissection of the above mentioned glands, should be performed.

Papillomata, which are potentially malignant, are found in the urethra usually in association with old strictures or chronic inflammatory disease. They become malignant when the basement membrane is infiltrated. The benign growths should be removed by fulguration and radiation: the malignant by amputation and gland dissection.

Malignant Growths of the Bladder, Ureters and Kidneys

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HEMATURIA, either gross or microscopic, is the most common and usually the first symptom of malignancy of the bladder, ureters and kidneys. The blood arising from the above mentioned organs is evenly distributed throughout all specimens of voided urine. It has been my experience that the presence of blood in the urine is quite alarming to the average patient and as a rule little time is lost in consulting the family doctor for diagnosis and treatment. Women, because they are most accustomed to the presence of blood in the urine at the menstrual period, are less inclined to be frightened when hematuria occurs, but usually the presence of blood in the urine in the absence of menstruation results in a call for medical aid.

In the past, and even in the present in some localities, on the part of some physicians there has been a tendency to belittle the seriousness of hematuria and to extend expectant treatment without trying to determine the source and the cause of the bleeding. By every physician, hematuria, whether it be gross or microscopic, should be considered of the utmost seriousness and every effort should be made to determine its source and cause.

The most common cause of gross hematuria arising from the bladder is the bladder tumor. The bleeding usually occurs early in the disease and may be either slight or profuse. As a rule the periods of bleeding are brief at first but as time passes the attacks occur with greater frequency and are of longer duration. The other symptoms of bladder tumor depend somewhat upon the location and character of the growth. For example, the presence of a papillary tumor in the vesical orifice or on the trigone near the vesical orifice may cause, in addition to gross hematuria, frequency, urgency and dysuria. A tumor located so as to obstruct the ureteral orifice may produce typical symptoms of renal colic. In the case of infiltrating tumors on the anterior or lateral walls, the neoplasm may grow to a considerable size without presenting any symptoms other than hematuria. In the presence of infection, urgency, frequency and dysuria may occur early in the disease. A careful microscopic examination of the urine may show typical tumor cells even in early cases. The diagnosis of bladder tumor can be made accurately only by means of a cystoscopic examination.

Inasmuch as many of these tumors pass through

relatively benign stages at which time they respond to simple endovesical treatment with radium plus fulguration, it is necessary that they should be seen as early as possible and the proper treatment instituted. This statement is based upon the results of a study of 622 cases of bladder tumors that I once had the privilege of making in the Brady Urological Institute at Johns Hopkins Hospital. In one group we had 45 patients with benign papillomas of the bladder that were treated by means of fulguration alone. In not a single instance did the tumors undergo more malignant changes and all these patients were cured by this form of therapy. In a group of 62 cases of malignant papillomas of the bladder treated by endovesical radium plus fulguration, 80 per cent were free from bladder tumors for a period of three years after treatment was instituted. In a selected group of early papillary carcinomas treated with the same type of therapy, 70 per cent were cured without the use of more radical measures.

Primary carcinoma of the ureter is an exceedingly rare condition, there being only 56 acceptable cases of this disease in the medical literature. To this group I hope to add another case that I have seen within the last year. Here again the most common and usually the first symptom of the disease is hematuria. The next most frequent symptom is pain which very often is of two distinct types. First there is the colic-like pain which results from obstruction due either to the presence of the tumor or blood clots in the ureter. The second type of pain is quite different in character, consisting of a dull, more or less constant ache located either at or below the level of the primary growth. As time passes the pain very frequently radiates to the back and to the hip on the involved side. If the tumor is located low in the ureter there may be some urgency and frequency of urination. Diagnosis can be accurately made only by means of a cystoscopic examination, ureteral catheterization and ureterograms. In these cases radical treatment is indicated as soon as the diagnosis is made.

With the exception of the embryonal tumors, which are probably perirenal in origin, involve the kidney by direct extension, and occur, for the most part, in the early years of life, hematuria is the most common and usually the first symptom of tumors of the kidney. For our purposes we might divide

tumors of the kidneys into three distinct groups: those that are primarily of the renal pelvis, tumors that start in the renal parenchyma, and the group of embryonal tumors that are probably perirenal in origin. In the last named group bleeding does not occur early because of the fact that the pelvis is seldom involved by direct extension. In these cases tumor is the first symptom and is followed usually in a short time by pain and pressure symptoms resulting from a massive growth within the abdomen. On course, at this stage very little can be accomplished from the standpoint of cure. Primary growths of the kidney pelvis are quite similar in character to those of the bladder and are seldom found in individuals under thirty years of age. Bleeding occurs early in the disease. In addition to the primary growth in the pelvis secondary implants are frequently found in the ureter. Diagnosis can only be made by means of special urological examination.

The primary tumors of the renal parenchyma such as the hypernephromas, papillary cyst adenomas, carcinomas, etc. usually involve the kidney pelvis fairly early in their development and cause hematuria. Of these tumors the hypernephroma or tumor of Grawitz is the most common and is seldom found in individuals under forty-five years of age. After bleeding, pain and tumor mass are the most common symptoms. A careful urological examination, including a differential study and pyelograms, usually makes possible a positive diagnosis at a relative early stage of the disease. Treatment, of course, is radical surgery rendered as soon as possible.

Summary.

1. Hematuria is usually the earliest and most common symptom of malignancy of the bladder, ureters and kidneys.

2. The cause and source of the hematuria should be determined as soon as possible.

Résumé of the Cases of Five-Year or more Clinical Cures of Carcinoma of the Male Reproductive and Urinary Systems for 1931

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THERE are four cases for presentation. The first is an eight-year cure following nephrectomy for hypernephroma. At present, the patient is in perfect health with no evidence of metastasis or recurrence. The operation was done within a few months of the onset of symptoms. As in about 50 per cent of these cases there are recurrences or metastases, this case illustrates the value of early diagnosis and prompt nephrectomy.

The second case is one of papillary carcinoma of the urethra. These cases are fairly rare. In 80 cases collected by Kretschmer the outcome was poor in the majority. In this case the penis was amputated, the urethra was transplanted in the perineum but the inguinal glands were not removed. The patient is in excellent health after eight years.

The third case was one of seminoma of the testicle. Simple orchidectomy was done five years ago. At present the patient is in excellent health and there are no recurrences locally nor metastases.

The fourth case, one of teratoma of the testicle, was treated by simple orchidectomy. After five years the patient is in excellent health.

These cases were submitted by Dr. Arthur H. Paine. To me they illustrate the value of surgery when done early, especially in these types of urological cases. Cancers of the prostate gland and of the floor of the bladder still are the bugbear of the urologist.

Protocols of the Cases of Carcinoma of the Male Reproductive System and the Urinary System Cured for Five Years or More

1.—Hypernephroma.

Arthur H. Paine, M. D., Genesee Hospital.

Male—aged 49 years.

Present Illness: October 19, 1922, fell from a wagon. General bruising, does not think he hurt right side. Past six weeks intermittent hematuria. Some pain in region of right kidney.

Physical Examination: Right kidney palpable, smooth, enlarged and very tender. Cystoscopy and pyelogram make diagnosis of functionless right kidney tumor. X-ray shows no evidence of metastasis.

Operation: January 16, 1923. Typical nephrectomy—large adherent tumor involving the upper three-quarters of the kidney.

Pathology: Hypernephroma. Large, well circumscribed, yellowish, fatty and vascular tumors prone to hemorrhage, necrosis and cyst formation. The cells are arranged in circular groups and are not clear but slightly granular with lipid and glycogenic granules yielding a foamy texture. Palisade arrangement of the cells is quite typical of this tumor.

Follow-up: Patient in perfect health—working a 100 acre farm alone. No evidence of recurrence nor metastasis.

2.—Papillary Carcinoma of the Urethra.

Arthur H. Paine, M. D., Genesee Hospital.

Male—aged 55 years.

Present Illness: Has had strictures of urethra for 35 years. Dilated at intervals. Now complete retention of urine.

Physical Examination: Extensive strictures of anterior urethra—small fibrous prostate, severe cystitis.

Operation: September 26, 1922. Suprapubic removal of small fibrous prostate. March 19, 1923, following urethral dilatation, papillary tissue was extruded from the meatus. Examination proved papillary carcinoma of the urethra. April 9, 1923, amputated penis, and urethra implanted in the perineum. Inguinal glands not operated.

Pathology: Papillary carcinoma of the urethra growing as a rounded fungoid mass distributed in the longitudinal direction and infiltrating into the tunica propria and submucosa. The cells are cylindrical and cuboidal. Mitosis is common, showing active proliferation.

Follow-up: Final discharge December 1, 1923. October 24, 1931—examination found no evidence of recurrence nor metastasis. Patient in excellent health.

3.—*Seminoma of the Testicle.*

Arthur H. Paine, M. D., Genesee Hospital.

Male—aged 39 years.

Present Illness: March 6, 1925—swelling and soreness in the left testicle. One year previously, had a slight injury to the testicle. Six months ago noticed a hard lump in the scrotum which has gradually increased in size and tenderness.

Family History: Father died, aged 79 years, of cancer, location unknown.

Physical Examination: Hard, nodular tumor about the size of an English walnut, involving the left testicle. Cord not involved. Glands of groin not palpable. X-rays of lumbar spine and chest show no evidence of metastasis.

Operation: March 9, 1925. Simple orchidectomy.

Pathology: Histological section shows large polyhedral cell growth distributed in a broad and narrow fibrous strand framework. In some parts extensive lymphocytic infiltration is present. No bone, cartilage or other type of histological structures are present in the tissue.

Follow-up: April 1, 1925, final discharge. Present

condition good—in excellent health. No evidence of local recurrence nor metastasis.

4.—*Teratoma of the Testicle.*

Arthur H. Paine, M. D., Genesee Hospital.

Male—aged 32 years.

Present Illness: June, 1925, noticed slowly developing swelling of the left testicle. After four months there was a sudden increase in size.

Physical Examination: In the left scrotum is a small, irregular, hard mass, involving the testicle. No adhesions to the skin. No sinuses. Remainder of genito-urinary tract normal. No enlargement of the inguinal glands. X-ray shows no evidence of metastasis.

Operation: November 2, 1925. Simple orchidectomy.

Pathology: Histological sections show a large cuboidal and polyhedral celled growth in a supporting stroma of fibrous tissue that in parts is glandular in structure. Sections of some parts of the tumor are glandular, some are cartilaginous and some are bony, thus classifying the growth as a teratoma.

Follow-up: November 23, 1925, final discharge. At present is in excellent health. No recurrence. No metastasis.

The Early Signs of Carcinoma of the Female Reproductive System

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THIS title is somewhat of a misnomer in carcinoma of the uterus, for here the diagnosis is not made by any signs or symptoms but by one of two simple procedures, i. e., biopsy of lesions at the cervical portio and diagnostic curettage for lesions above the portio.

Here, also, in contrast to malignancy in some regions of the body where the diagnosis can only be conjectured, there is no occasion for any doubt or for removing a uterus "on suspicion," for the diagnosis of uterine carcinoma is easily established with absolute certainty by these procedures.

There is only one early symptom of uterine carcinoma, and that is irregular bleeding or bloody discharge. The character of this bleeding is better appreciated if one has in mind the pathological process. Carcinoma is, of course, a malignant growth of epithelial tissue. As this epithelium proliferates and invades, an ulceration of the surface is produced with an erosion of blood vessels, and bleeding ensues. Hence this bleeding is of a very definite character, is usually only slight at first or only a brownish discharge, but is more or less continuous and has no relation whatever to menstrual bleeding. In this way it is distinguished from the increased flowing which commonly occurs at the time of the climacteric, which is only an increase in the amount and frequency of the menstrual periods but with no intermenstrual bleeding.

There are three other conditions which may produce a similar irregular bleeding, i. e., uterine polyp, submucous fibroid, or the so-called functional bleeding of endometrial hyperplasia. Hence the necessity for a diagnostic curettage for any bleeding coming from above the portio, and when this is done there is no longer any doubt as to the presence or absence of malignancy.

In doing this there is one precaution to have in

mind, and that is for a thorough curetting at the uterine cornua with a small curette, for malignancy is apt to originate at this site.

The cervical portio is readily accessible to both sight and touch, and here malignant lesions present physical signs as well as the symptom of irregular bleeding.

Cervical cancer rarely occurs on a normal cervix. It is usually preceded by some chronic lesion and is often associated with tears sustained at childbirth. The majority of cases occur in women who have borne children, while cancer of the uterine body occurs almost wholly in nullipara, in virgins, or in unipara.

Cancer of the body of the uterus usually occurs late in life, in the sixth, seventh and eighth decades, while that of the cervix occurs commonly around the time of the climacteric and is not rare even in the twenties.

Carcinoma of the portio may be either cauliflower or ulcerative in type. The cauliflower type is very friable and bleeds easily and freely, while a brownish discharge without so much bleeding probably means a scirrhus type, which is more malignant.

Frequently the first symptom is bleeding after intercourse, and this symptom should always be viewed with suspicion. The chief characteristic of malignancy of the cervix is the friability of the tissue. When a small probe is passed into it, there is no resistance felt, and the probe penetrates the tissue as it would cheese. This friability of the tissue is not found in any other condition.

Papillary erosions at times have a cauliflower appearance but here the granulations are soft and polypoid, while in cancer they are hard and friable.

Tuberculous ulceration occasionally occurs at the cervix but this is usually secondary to tuberculosis of the tubes or of the body of the uterus. The diag-

nosis can probably not be made except by biopsy examination.

At times the primary lesion of syphilis must be differentiated. This has a more shiny and fatty look, is hard and not friable, and the spirocheta pallida may be found by dark field examination.

The very early stage of carcinoma of the cervix cannot be definitely diagnosed clinically. Hence in every suspicious lesion, a biopsy should be employed at once. This is an easy procedure, does not require an anesthetic, and can usually be performed in the office. A biopsy examination by a competent pathologist offers a quick and definite diagnosis. In doing this one should have in mind to take the specimen from the junction of the growth with normal tissue so that the section will show the epithelium penetra-

ting the normal tissue.

Pain is absent as a symptom in early carcinoma of the uterus, and at times abnormal bleeding may not occur until the lesion is quite far advanced. Hence, despite the fact that the uterine cervix is easily accessible to both sight and touch, cancer in this location is frequently in an advanced stage when first discovered. This is especially deplorable in view of the fact that statistics show that 75 per cent of early treated cases survive the five-year period, while the salvage in advanced cases is comparatively small.

Therefore, if cancer of the cervix is to be prevented and controlled, it will be necessary to make routine and periodic examinations of this organ, clearing up pathological precancerous lesions and detecting malignant lesions in the early stage.

Malignancy of the Female Genitalia Aside From the Uterus

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NEXT to the uterus the ovary is the most frequent site of malignant disease in the female genital tract.

The majority of malignant tumors are primary, being either originally malignant, or malignant degeneration of a benign ovarian tumor either solid or cystic.

Metastatic malignancy in the ovary is not uncommon, arising from breast, stomach, intestinal tract or uterus.

Primary carcinoma of the fallopian tube also occurs. This symposium is dealing with early diagnosis and not with such symptoms as severe pain, great loss of weight and strength, disturbance of bladder or rectal function, or with such signs as large tumors and ascites.

Definite early diagnosis of malignancy of the uterine adnexa is impossible. The parts are not accessible to direct inspection or biopsy. We have no specific test for the presence of malignancy in the body. There is nothing characteristic about the age, the local symptoms or signs, the presence of uterine bleeding, or any other factor that will enable us to say "This woman has a malignancy of the uterine adnexa"—that is, to say it at a time when we might do her some good by therapy.

The onset and progress are insidious and often the condition is far advanced before the patient is seen. It is only if we bear the possibility of malignancy in mind that we will be eternally watchful. Periodical gynecological examination offers probably the only hope of detecting a considerable number of early cases. The ease of examination has an important bearing on early diagnosis. If the patient is thin and palpation easy, the chance of overlooking an adnexal mass is small. If, however, she has a fat abdomen, thick omentum, some contraction, and loss of pliability in the vaginal vault, it may be impossible to say with certainty whether there is anything wrong.

As the diagnosis can only be made with the abdomen open, the advice to open the abdomen must be suggested in any case of adnexal mass, solid or cystic, that is not due to acute inflammation, es-

pecially in women over 35 years of age.

Primary carcinoma of the vagina is comparatively rare. Apparently trauma plays no part in its causation, although most of the cases occur in women who have had children. The symptoms do not differ from those of carcinoma of the cervix. Leukorrhea, bloody and malodorous discharge were noted rather early. Pain is not an early symptom. The local lesion may occur anywhere in the vagina and is usually an infiltrating or fungating one associated with rather early ulceration. The cases of carcinoma that I have seen have been metastatic from uterine carcinoma: three cases seen in carcinoma of the cervix unoperated and one case following the removal of the uterus for carcinoma of the body. Although teratoma, melanoma, and sarcoma occur in the vulva, carcinoma is by far the most frequent malignant tumor and nearly all of these are epitheliomata. It is most common in the sixth and seventh decades—a disease of old age.

Trauma does not seem to hold any etiologic relationship. Leukoplakic vulvitis is undoubtedly the most frequent pre-cancerous lesion. In fact many authorities believe that this condition inevitably proceeds to cancer if the patient lives long enough. Other conditions are concerned with the lowering of local resistance and in the maintenance of chronic irritation. The most common of these is pruritus. It would seem that in those cases in which the patient has suffered for several years from pruritus that has caused excoriation, abrasions with resulting pigmentation, and in which epithelioma has developed later, it is fair to suppose that the pruritus was at least an indirect factor in its production. On the other hand, in those cases in which the irritation has preceded the tumor by a few months only, it should be regarded merely as an early symptom.

Naevi, moles and warts and syphilis have each been proven to have been factors in isolated instances.

The earliest symptoms are itching or burning on urination. Ulceration may occur at any time during the course of the disease. Over 50 per cent in a large series were ulcerated when first seen. All the cases observed by myself were ulcerated when first seen. Pain is then noted, more or less discharge and

at times slight bleeding. Then follows intractable insomnia, secondary anemia and cachexia.

Early diagnosis is of primary importance. Women must be taught to abandon the idea of false modesty and physicians must make a careful examination. Patients with pruritus should be carefully instructed regarding the value of repeated examinations and of immediately reporting any ulcerative lesion. The local lesion may be of the superficial fungating type or it may be of the deep infiltrating type.

In the differential diagnosis, metastatic growths

from the ovary, cervix or uterus, tuberculosis and syphilis must be eliminated. Before any extensive resection a biopsy should be made because complete vulvectomy has been performed for a lesion later found to be a gumma.

Delay in determining the nature of a suspicious ulcer or wart by biopsy, or by evaluation of positive clinical data, permits many a small, easily curable cancer to reach a stage that offers a poor prognosis from any treatment.

Resume of the Five-Year Clinical Cures of Carcinoma of the Female Reproductive System

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THE résumé of the five-year clinical cures of carcinoma of the female reproductive system for the year 1931 consists in a consideration of nine cases, a small number when one considers that cancer of the uterus is one of the frequently occurring malignancies.

Primary carcinoma of the vulva, although not a rare disease, occurring usually late in life, is unreported in this series. The uncommon primary carcinoma of the vagina is also not represented. There are no reported cases of malignancy resulting from decidual degeneration, nor is there any case of tumor of the ovary or fallopian tube.

The age incidence in these reported cases ranges from 48 to 63 years, only one case being over 60.

There is one case of cancer of the uterine stump which was treated surgically. The absence of malignancy of the cervix at the time of operation for benign lesions of the fundus does not preclude the likelihood of its later development if the cervix is left intact. In twenty years at the Mayo Clinic there were presented 99 cases of carcinoma of the cervical stump following sub-total hysterectomy for non-malignant conditions. The general incidence runs from two to three per cent. Excision of the cervical canal at the time of primary operation has appeared to reduce this sequel, especially if the patients have borne children or if the cervix harbors a focus of infection.

There are two reported cases of adenocarcinoma of the body of the uterus, both having had diagnostic curettage and both treated by wide panhysterectomy, concerning which treatment there is little question. Cancer of the fundus uteri cannot be classed with the tumors which produce early lymphatic involvement. Observations at necropsy suggest the tendency of the disease to remain localized to the uterus or to the uterus and its contiguous tissue.

There are seven cases of cancer of the cervix representing both the squamous cell and the adenocarcinomatous type of malignancy. Two cases were treated by operation and five by radium alone. One of the radium-treated cases developed a small vesicovaginal fistula.

Even from the consideration of these local cases it appears that cancer of the cervix is certainly as well treated by radium as by hysterectomy. In the group of cases in which hysterectomy is not possible, radium often yields splendid results. The original

lesion many times disappears entirely, and even though metastatic processes appear later, the patients have derived as much benefit as could have been obtained by surgery.

With the radical operation for carcinoma of the cervix, Wertheim himself found an operability of 48 per cent, and allowing for a minimum mortality of 12 per cent, he found that the five-year cures amounted to about nine out of a hundred cases.

It appears safe to assume that the serious questions regarding the relative merits of surgery and radium in the treatment of cancer of the cervix are settled. Surgery, no doubt, is excellent for very early cases, but very early cases are seen only rarely, and even in these radiation produces equally good results without the hazards and the morbidity of operation.

Recently appearing statistics on the end results of radium treatment of carcinoma of the cervix in the United States and abroad are approximately the following:

Five-year cures, 25 per cent; Clinical cures, 3 years, 35 to 40 per cent; Clinical cures, less than 3 years—about 50 per cent.

I think it can be reasonably stated that until the development of some better method, cancer of the uterine cervix appears best treated by radiation therapy.

Protocols of the Cases of Carcinoma of the Female Reproductive Organs Cured for Five Years or More

1.—Adenocarcinoma of the Body of the Uterus.

Arthur E. Davis, M. D., Genesee Hospital.

Female—aged 51 years.

Present Illness: Patient has been flowing during the last three months, rather profuse for the last four or five days. Menstrual periods have been normal up to this period since the age of 13. Never pregnant and never took any means to prevent conception. In October, 1924, had an abscess of a Bartholin's gland. No other operations, no history of injury, and no history of severe illness.

Physical Examination: Uterus about three or four times normal size, freely movable, no masses on either side of the uterus; cervix intact. Uterus somewhat boggy and bleeds easily on examination.

Operation: On January 3, 1926, a total of 3000 mg. hrs. of radium applied intrauterine, screened with 5/10 mm. of brass and 2 mm. of rubber. On January 26, 1926, the uterus was packed with iodoform gauze and

cervix sewed up tight and vagina wiped out with Churchill's tincture of iodine. The abdomen was opened and wide panhysterectomy was performed.

Pathology: Adenocarcinoma of the uterus.

Follow-up: The patient was in the hospital about four weeks and healed by primary union. She has been seen at regular intervals varying from three months to a year, and to date there has been no recurrence. The patient is in excellent general health.

2.—Carcinoma of the Body of the Uterus.

Leo F. Simpson, M. D., F. A. C. S., St. Mary's Hospital.

Female—aged 50 years.

Present Illness: Adenomatous metrorrhagia more or less continuous for the past four months.

Physical Examination: Multipara. Uterus enlarged. No definite tumor masses made out.

Operation: January, 1911. Diagnostic D and C. Adenocarcinoma of the corpus uteri. Panhysterectomy.

Pathology: Carcinoma of body of uterus. New York State Institute for the Study of Malignant Disease.

Follow-up: Personal examination October 31, 1931. Well and free from recurrence.

3.—Carcinoma of the Cervix of the Uterus.

Arthur E. Davis, M. D., Genesee Hospital.

Female—aged 49 years.

Present Illness: Has been flowing constantly for the last two months; some backache and some bearing down, but no pain.

Physical Examination: Uterus somewhat enlarged, freely movable; cervix ulcerated and bleeds easily on touch. The movability of the cervix is somewhat restricted. No masses on either side of the uterus.

Operation: On November 10, 1925, D and C and biopsy. On December 12, 1925, 2880 mg. hrs. of radium were completed intracervically and cross fire to the cervix, screening intracervically with 5/10 mm. of brass and 2 mm. of rubber and screening cross fire application with 5/10 mm. of brass and $\frac{1}{2}$ " of gauze, the capsule being held in place by rubber tube extending into the cervix and vaginal gauze packing which held the capsule close to the cervix and held bladder and rectum as far away as possible.

Pathology: Carcinoma of the cervix.

Follow-up: The patient was completely healed July 20, 1926. She has been examined at irregular intervals since and shows no signs of recurrence and is in excellent general condition.

4.—Carcinoma of the Cervix of the Uterus.

Arthur E. Davis, M. D., Genesee Hospital.

Female—aged 54 years.

Present Illness: Patient has had a constant slight flow for the last few weeks, no pain and no other pelvic symptoms. No definite history of pregnancy although patient thinks she had a spontaneous abortion about twenty years ago. No operations, no injuries and no history of severe illness.

Physical Examination: The cervix and the cervical canal are indurated, nodular and bleed easily on touch. Cervix is not fixed, uterus freely movable and no masses on either side of the uterus.

Operation: D and C and biopsy done on October 23, 1925. Patient was given 1440 mg. hrs. of radium intracervically. On November 30, 1925, 1440 mg. hrs. of radium were given in a vaginal pack close to the cervix. On December 16, 1925, 2880 mg. hrs. of radium were given intracervically and cross fire to the cervix and upper vagina. Intracervical applications of radium were screened with 5/10 mm. of brass and 2 mm. of rubber. The vaginal packs were screened with 5/10 mm. of brass

and $\frac{3}{4}$ " of gauze with the bladder and rectal walls pushed as far away from the radium capsule as possible. The radium capsule was held in place by rubber tube extending into the cervix and gauze packed against the capsule.

Pathology: Carcinoma of the cervix.

Follow-up: Patient was seen at frequent intervals and the cervix was healed July 29, 1926. The patient has been seen at frequent intervals since, the last examination being on September 22, 1931. There has been no recurrence of the carcinoma, and the patient is in excellent physical condition.

5.—Adenocarcinoma of the Cervix of the Uterus.

Arthur E. Davis, M. D., Park Avenue Hospital.

Female—aged 48 years.

Physical Examination: At the time radium was applied the anterior portion of the cervix was firmly fixed to the posterior bladder wall and the entire anterior lip was involved in the growth, which was nodular, ulcerated and bled very easily to touch.

Operation: On January 29, 1926, 2940 mg. hrs. of radium were used. On February 18, 1926, 3000 mg. hrs. of radium were used. About one-half of each dose was given intracervically and one-half cross fire in the upper vagina. All radium was screened with 5/10 mm. of brass and 2 mm. of rubber, the bladder wall and rectal wall being forced as far away from the radium capsule as possible with vaseline gauze.

Pathology: Adenocarcinoma of the cervix.

Follow-up: October 19, 1931. There is a small vesicovaginal fistula. The cervix is practically obliterated and the uterus very small. The patient is in excellent condition, having gained 26 pounds. There is no sign of malignancy.

6.—Carcinoma of the Cervix of the Uterus.

Leo F. Simpson, M. D., F. A. C. S., St. Mary's Hospital.

Female—aged 60 years.

Present Illness: More or less continuous vaginal bleeding for the past six months. Thyroidectomy by Dr. Simpson two years ago.

Physical Examination: Ulcerative lesion involving the cervix and extending to the vault of the vagina on the left side.

Operation: August 30, 1923. Destruction of lesion with actual cautery and immediate abdominal pan-hysterectomy.

Pathology: Carcinoma of the cervix. New York State Institute for the Study of Malignant Disease.

Follow-up: Seen by Dr. David G. Cooper, Albion, N. Y., on October 17, 1931, and reported well and free from recurrence.

7.—Carcinoma of the Cervix of the Uterus.

Leo F. Simpson, M. D., F. A. C. S., St. Mary's Hospital.

Female—aged 63 years.

Present Illness: Serosanguineous discharge, more or less continuous for the past four months, aggravated by exertion.

Physical Examination: Essentially negative except for large fungating bleeding mass on the cervix. Vaginal walls apparently not involved.

Operation: May 17, 1922. Destruction of the lesion with actual cautery and immediate abdominal pan-hysterectomy.

Pathology: Carcinoma of the cervix. New York State Institute for the Study of Malignant Disease.

Follow-up: Examined by Dr. R. E. Brodie of Albion, N. Y., on October 13, 1931. No evidence of recurrence. Patient well.

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Economics

Unnecessary Post-War Costs

Department Editor: THOMAS A. MCGOLDRICK, M.D.

CHAIRMAN COMMITTEE ON ECONOMICS OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS, BROOKLYN

ALTHOUGH the present times are so stringent financially, no doctor, knowing intimately as he does the present needs of the people and the possibilities of future physical distress, would suggest that less effort and less money be expended by civil authorities for the prevention of disease or the treatment of those who are rightly State charges. It is imperative that all these moneys be expended most wisely, that waste, graft and political expediencies be completely obliterated and that the undeserving receive neither treatment nor support.

The medical profession has hardly yet fully realized the extent, the ramifications and the possibilities of the medical phases of the U. S. Veterans Act and its amendments. For those who have incurred disability during their war service or as a result of service experiences, we are all deeply obligated to furnish every possible aid. When, though, as a means to secure votes, influence or prestige, to create new jobs or to make the tenure of office holders more permanent, the Government decided to give complete medical institutional treatment and board to all veterans of any war for sickness due to any cause, the feeble protest of those who reckoned the ultimate cost was smothered by the songs of unlimited prosperity. Now, there is need and time for thought.

At a recent hearing of a Congressional Committee in Kansas City, it was shown that 76 per cent of the patients in veterans' hospitals in 1931 were there for disabilities not connected with military service. In the few years since the Amendment was enacted, over \$6,000,000,000 has been spent for such care while the States, in addition, have spent hundreds of millions. At the present rate, by 1945 over \$21,500,000 will have been used for this purpose—an amount equal to the entire cost of the war. Less excusable is the waste of building new institutions while existing facilities were

available. An incomplete census of private hospitals in the country in 1931 showed that in them there were more than 120,000 unoccupied beds. In these beds under government scrutiny, the veterans could, if they must, be cared for at less daily cost than in the new government institutions; the sick themselves would be near their homes and not transported long distances; the billions of dollars for new buildings would not be needed and the ultimate fate of these buildings would not be a matter of serious concern to the profession and the people.

In the municipalities and states, too, active groups of enthusiastic social workers and selfishly interested local realty developers, with little or no thought of the source from which the money must come, have prevailed on authorities to erect hospitals and dispensaries of unnecessary costliness and questionable need. The incidence of tuberculosis is rapidly lessening; the death rate is only half that of twenty years ago; the tuberculosis societies are adding heart diseases to their splendid activities; national societies have recently discussed the future use of hospital beds now in need for those sick with this disease. There are 5,000 fewer cases registered in Greater New York than five years ago, and yet the city officials have decided to erect, in Brooklyn, a new hospital for the tuberculous at a building cost of \$4,000,000.

At the present time in beds in approved private hospitals, at daily rates fixed by the city, many emergency patients are satisfactorily treated and many more could be, at great saving to the taxpayers. There is very little need for new public hospitals. When they do become necessary, civil authorities should confer with carefully selected qualified members of organized medicine, and capable representatives of the owners of real estate in the community upon which the increased taxes must be imposed.

Why Substitute a Less Successful System?

Lowering of death rate and lessening of morbidity in this country have been so continuous that little comment is excited. The weekly Bulletins of our Municipal Board of Health have kept us informed of the progress steadily made in this city. A recent report of the Metropolitan Life Insurance Company, giving statistics concerning its policyholders in America for the first half of 1932, shows the mortality rate of 9.2 per 1,000 to have been the lowest for such a term on its records. Tuberculosis, respiratory diseases, puerperal conditions all share in the improvement, while the only increase was in the degenerative diseases of the cardio-renal-vascular group. The lack of employment, and the consequently decreased incomes, have not been factors causing more sickness, accidents and deaths.

One of the favorite arguments advanced by proponents of the various forms of Health Insurance and State Medicine has been the tremendous stride forward that would be made in public health and in the prevention of communal diseases. The private practitioner of today, they tell us, takes very little interest in these questions.

In his "individualistic" mode of life he sees nothing but his own patient. He is excused because he does not know better—in fact, in medical school he was never taught public health, and since graduation he has never taught himself anything.

Records, such as those of this insurance company, tell a very different story. The great reduction in incidence and death rate of diphtheria; the almost complete obliteration in areas of this country of typhoid and malaria; the diminution in number of cases and death rate of tuberculosis; the infrequency of the gastro-intestinal diseases and nutritional disorders of infancy are too well known to excite comment by physicians.

Impartial students of public health conditions in Europe (Simons and Sinai) found no country coping so successfully with the questions of public health as our own. Sir Arthur Newsholme of England, who has devoted a great part of his life to public health activities, repeatedly emphasizes the part that must be taken by the general practitioner in the initiation and successful

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Contemporary Progress

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Medicine

White Blood Cell Counts in Infectious Diseases

P. Reznikoff (*American Journal of Medical Sciences*, 184:167, Aug., 1932) reports a study of the Schilling blood count or hemogram in infectious diseases of various types, especially during convalescence. During the active infection, there is an increase in the immature polymorphonuclear cells—the characteristic “shift to the left”—and a diminution of lymphocytes, monocytes and eosinophils. As the infection subsides, there is normally a decrease in the immature polymorphonuclears, and at first an abrupt rise in the monocytes; this increase in monocytes may be of brief duration. As convalescence progresses the immature polymorphonuclear count returns to normal, the monocytes decrease, and the lymphocytes and eosinophils increase. With complete recovery, the hemogram usually returns to normal. There may be variations of this process in different types of infection. In pneumonia the duration of the high monocyte phase is short, in infectious arthritis it is often prolonged. In rheumatic fever, scarlet fever, tonsillitis and in a few cases of pneumonia the increase in eosinophils may occur early in convalescence and either recur later or persist for a long time. The duration of the high lymphocyte count also varies. Persisting increase in immature polymorphonuclears, decrease in lymphocytes and monocytes and absence or marked “depression” of eosinophils indicate a bad prognosis. A persistence of a fairly high immature polymorphonuclear count and failure of the lymphocytes to rise as the fever subsides indicate a prolonged convalescence and the probability of complications. In order that the hemogram may be of definite value in prognosis, counts must be made at frequent intervals.

Polycythemia and Liver Therapy in Asthma

H. H. Moll (*British Medical Journal*, 1:976, May 28, 1932) found that in 38 cases of asthma, polycythemia, i.e., a red cell count above 6 million, was present in 31 cases. It was most frequently found in the allergic type of asthma, being present in all but 2 of 22 cases of this type. The highest red cell counts were usually found immediately after an attack and for varying periods up to one month after an attack. Seasonal variations in the red cell count were also noted, the count being highest in the summer in pollen-sensitive cases, and in the winter in the infective cases. In cases showing a diminution in the frequency and severity of attacks under any type of treatment, a fall in the red cell count occurred. Treatment with liver or liver extract (usually the latter) was carried out in 53 cases of asthma; this treatment was tried because it has been frequently assumed that liver function is defective in asthma. The cases treated were of various types—allergic and non-allergic—and many had failed to improve under other types of treatment. No definite cures, in the sense of complete freedom from attacks for a period of at least two years, were obtained, but 32 of the 53 cases (60.3 per cent.) showed definite improvement: the longest period of complete freedom from attacks was ten months; but often the frequency and severity of attacks were markedly reduced. The best results were obtained in allergic cases with an initial high red cell count; in these cases the red cell count fell as the symptoms improved. It is “not clear” how liver therapy influences the asthmatic state. The author suggests that it may provide a substance that plays a part in the antigen-antibody reaction in man, and which is lacking in asthmatic patients; or that it may act as a desensitization therapy because of the rapidly assimilable amino-acids present in the liver extract.

Hyperthyroidism and Carbohydrate Metabolism

H. J. (*Journal of the American Medical Association*, 99:620, Aug. 20, 1932) reports that in 9,000 cases of thyroid disease studied at the Cleveland (Ohio) Clinic, 620, or 6.88 per cent.,

showed some degree of “nonphysiologic hyperglycemia”. In nearly 70 per cent. of this group the hyperglycemia disappeared after thyroidectomy, but in over 30 per cent. (207 cases) it persisted; thus the incidence of diabetes was 2.1 per cent. in the entire series of cases of hyperthyroidism. All of these cases were treated for diabetes; and 166 were carefully followed up for one to ten years. In 55 per cent. of these cases the diabetic state improved after thyroidectomy; in 15 per cent. it remained stationary; and in 30 per cent. the patients required more insulin, or if not taking insulin have shown a loss of carbohydrate tolerance indicating that insulin will soon be required. Hyperthyroidism, the author believes, plays a fundamental etiological role in the disturbances of endocrine equilibrium in cases with a diabetic “anlage” in which diabetes can be precipitated. Glycosuria and hyperglycemia are not infrequently present in hyperthyroidism; their significance must be determined by appropriate tests and continued observation. Patients with hyperthyroidism who do not show frank diabetes of severe type, but a lesser degree of disturbance of carbohydrate metabolism, may have only a “functional” diabetes or true diabetes in an early stage. If they are not treated accordingly true diabetes may develop.

Glucose in Diabetic Intoxication

H. P. Himsworth (*Lancet*, 2:165, July 23, 1932) reports the use of glucose as the “essential therapeutic agent” in the treatment of diabetic intoxication and incipient coma; insulin is given but the fundamental idea of the treatment is to give glucose “covered by the necessary amount of insulin, not insulin covered, if necessary, by glucose.” Diabetic intoxication is associated with the production of ketone bodies, and although ketone bodies may not be the direct cause of coma, they are, at least, indicators of its progress, and it seems fair to assume that if any method of treatment causes their quantitative diminution it has a therapeutic effect on the essential cause of coma. Because of its effect in the reduction of ketonuria, both in diabetic subjects and normal persons, glucose was tried in a few cases of diabetic intoxication and it was found that such diabetics could utilize glucose to some extent and that its utilization was increased by the administration of glucose and sufficient insulin to “cover” it, and the ketonuria and intoxication thereby relieved. In cases of diabetic intoxication and pre-coma in which the patient can take glucose by mouth, water is given freely, and every three hours 25 units of insulin and fifteen minutes later 50 gm. of glucose in solution by mouth. As soon as the patient is passing urine containing only a trace of sugar and no ketone bodies, he is put on a light diet almost exclusively carbohydrate, and insulin so that every 3 gm. of carbohydrate is covered by 1 unit of insulin; in addition in between each meal and three hours after the evening meal, 30 gm. glucose and 10 units of insulin are given. After twenty-four to forty-eight hours the glucose with its covering insulin is stopped, if the patient continues to be acetone-free, and the diet increased with every 4 gm. carbohydrate covered by 1 unit of insulin. In cases of coma and when vomiting is severe, the glucose is first given intravenously and the covering insulin subcutaneously, until the patient's condition so improves that the treatment by mouth can be carried out. Of 41 cases of varying degrees of diabetic intoxication treated by this method at the University College Hospital, London, all have shown steady improvement and prompt recovery. The same method has proved of value in diabetics during acute infections and after operation.

Early Diagnosis of Syphilis

A. Sézary, P. Lefèvre and P. Boutteau (*Presse médicale*, 40:1183, July 27, 1932) describe their method for puncture of one of the enlarged satellite glands (bubo) in cases with a genital lesion in which syphilis is suspected. The material thus obtained is examined for the *Spirocheta pallida* using a silver stain (Fontana) or the dark-field method. In 50 cases in which

the spirochetes had been found in the chancre, results of the gland examination were positive in 28 cases, or 56 per cent., but in 20 cases in which examination of the chancre had not been done or was negative, the gland examination was positive in 17 cases, or 85 per cent. The higher percentage of positives in the latter group was due primarily to the fact that the primary lesion was in an earlier stage than in the first group. This method is of special value, therefore, in early diagnosis when the examination of the chancre gives negative results. Its use is also indicated in cases in which previous treatment or secondary infection has caused the disappearance of the spirochetes from the surface of the chancre; and in cases in which the primary lesion is difficult of access, as in chancres under the prepuce or those masked by a phimosis. With this method, as with the usual method of examination of the chancre, a negative result does not definitely exclude syphilis, and the patient should be kept under observation. A positive result, however, permits the early diagnosis of syphilis, and the institution of treatment at an early stage.

Solar Radiation and Endemic Goiter

J. J. Smith (*Archives of Internal Medicine* 50:76, July, 1932) presents data in regard to the amount of solar radiation in endemic goiter regions in the United States, India and New Zealand, which indicate that a deficiency of solar radiation tends to reduce the iodine content of the thyroid gland with a resulting increased prevalence of goiter; this is due to lack of irradiation of air, soil, food, drinking water or of the skin. In addition, a special study in South Carolina showed that the iodine content of potatoes, according to the distance from the sea, varied with the amount of solar radiation during the late summer months, suggesting that solar radiation at this period of the year may have some influence on the iodine content of vegetables.

Surgery

Electrohemostasis in Place of Ligatures

H. H. Young (*Surgery, Gynecology and Obstetrics*, 55:100, July, 1932) describes his use of electrosurgery in place of ligatures and the electrosurgical unit designed and used at Johns Hopkins Hospital, by which the current can be easily and accurately controlled. With this apparatus there is only one adjustment, the lever that regulates the amount of current. When the surgeon has determined exactly the amount of current necessary for the type of work to be done, the lever is set at this point on the numbered scale and exactly the same current is delivered at each operation. The length of time for the application of the electrode varies with the site of operation and the conditions in each case. Young has found this apparatus of most value for replacing ligatures for the arrest of hemorrhage from bleeding points that have been clamped during operation. Before the clamp is removed, the operator touches each clamp momentarily with the electrode when the vessels are small. With larger vessels a somewhat longer contact is necessary. If arteries or veins "of importance" are involved, ligatures are usually employed, although even in these cases it might be possible with care to obtain hemostasis and satisfactory sealing of the vessels. It is, however, in extensive operations with numerous small bleeding points that the value of the method is greatest. With the technique described, the bleeding vessels are sealed with very little destruction of tissue.

Surgical Procedures for Duodenal Ulcer

W. Walters (*Annals of Surgery*, 96:258, Aug. 1932) in an examination of portions of the stomach and duodenum resected for duodenal ulceration at various German clinics, found that as a rule there was a marked gastritis associated with the duodenal lesion. These gastric lesions were for the most part ulcerative in type, confined to the antrum of the stomach, and sometimes associated with hemorrhagic gastritis and hypertrophy or atrophy of the gastric mucous membrane. In his experience at the Mayo Clinic, where pyloroplasty or gastroenterostomy is the usual operation for duodenal ulcer, the author rarely found evidence of an associated gastritis. In a few selected cases of duodenal ulcer, chiefly of a perforating, hemorrhagic or craterous type, the author has recently performed gastric resection of the Billroth I or posterior Polya type; examination of the sections removed has confirmed his opinion that an associated gastritis is of rare occurrence in cases of duodenal ulcer at this clinic. In only 2 cases was gastritis found, and in one of these gastric ulcerations had been demonstrated roentgenologically prior to operation, while in the other the presence of an ulcerative lesion was indicated by unusual thickening and congestion of the lower portion of the stomach on palpation. It is evident, therefore, that the lesions of duodenal ulcer are different in Germany and in the United States. The findings in the German clinics indicate the reason for the high incidence of recurrence following the

operations of gastroenterostomy and pyloroplasty for duodenal ulcer in these clinics; and justify the practice of gastric resection for this lesion. The author's findings and the results obtained at the Mayo Clinic indicate, however, that here the conservative operation of gastroenterostomy or pyloroplasty with excision of the ulcer will give satisfactory results in the majority of cases of duodenal ulcer. If there is clinical evidence of associated ulcerative gastritis, gastric resection should be done.

Spinal Anesthesia

J. O. Bower and his associates at the University of Pennsylvania Department of Experimental Pathology (*Surgery, Gynecology and Obstetrics*, 54:882, June 1932) report a series of experiments on spinal anesthesia in dogs from which they draw certain conclusions in regard to the clinical use of this type of anesthesia. In their experimental work, they found that: The fall in blood pressure following the injection of an anesthetic into the sub-arachnoid space is not due to a collection of blood in the splanchnic area, but is mainly cardiac. Paralysis of the intercostal and phrenic nerves interferes with normal chest expansion and diaphragmatic excursion, causing a damming back of venous blood in the right heart and its tributaries. When the ascent of the anesthetic in the spinal canal is gradual, the blood pressure drops gradually; when the anesthetic ascends rapidly and sufficiently high to affect the respiratory and vasomotor centers as well as the nerves of respiration, the fall in arterial pressure is almost immediate. When the anesthetic ascends to the fourth thoracic nerve root or higher, there is an associated dilatation of the heart. In these experiments adrenalin and ephedrin did not prevent cardiac dilatation. The Drinker respirator alone will resuscitate an animal that has been given the full dose of a spinal anesthetic into the cisterna. In the clinical use of spinal anesthesia, the authors conclude that it is most important to make a careful selection of patients and to recognize a high effect early in the course of the anesthesia. In the selection of the patient, it is most important to estimate the myocardial reserve, by physical examination and the electrocardiograph. A respirometer should be used to determine early changes in the respiratory volume. Safe spinal anesthesia is the preservation of epicritic and protopathic sensation at about the level of the sixth rib. Artificial respiration is the best means of combating respiratory embarrassment and the fall in arterial pressure.

Carbon Dioxide and Anesthesia

H. Gaudier (*Bulletins et mémoires Société nationale de chirurgie*, 58:738, May 14, 1932) has found that inhalation of carbon dioxide (7 per cent.) and oxygen is of definite value not only for the treatment of postoperative pulmonary complications, but also in any respiratory disturbances arising during anesthesia. He has devised a portable apparatus for inhalation anesthesia by which either the anesthetic or carbon dioxide with oxygen or a mixture of the two can be given as desired. When a mixture of the carbon dioxide and the anesthetic is given, the respirations are deep and the patient's color is good. When the operation is over the carbon dioxide in oxygen is given alone for ten minutes. After such inhalations patients expectorate easily, and show a good color and excellent heart action. The carbon dioxide and oxygen inhalations are also employed with spinal anesthesia as well as with general anesthesia.

Surgical Treatment of Chronic Gall-Bladder Disease in Diabetics

I. M. Rabinowitch (*Annals of Surgery*, 96:70, July 1932) reports 50 cases of gall-bladder disease in diabetics in which operation was done at the Montreal General Hospital. He notes that it is generally recognized that there is a high incidence of gall-bladder disease among diabetics; at the Montreal clinic it is about 25 per cent. among adults; the gall-bladder disease undoubtedly has an etiological rôle in diabetes. In the 50 cases of this series, the gall-bladder infection was chronic; none of the patients were acutely ill, and all were carefully prepared for operation. The average age of the diabetic patients in this series was 51.8 years, as compared with 47.2 years in a control group of non-diabetics operated for chronic gall-bladder disease. Cholecystectomy was done in 2 cases, with drainage of the common bile duct in 15 of these; choledochotomy was done in 3 cases; cholecystostomy in 15 cases. The postoperative course— healing of wounds and convalescence—was practically the same in the diabetic and the control groups. The average postoperative stay was slightly longer in the diabetic group, 28.2 days as compared with 26.3 days; but this was due primarily to the fact that prolonged biliary drainage was carried out in 15 of the diabetic cases. There were 2 deaths in 50 diabetic cases, a mortality of 4 per cent., which was slightly lower than that for the larger group of control cases (5.5 per cent.). The ratio of actual to expected deaths in the diabetics operated was essentially the same as that for diabetics in the clinic as a whole since the use of insulin. All the 48 patients that recovered from the op-

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The Washington Merry-Go-Round

The swish of a dish towel may be as potent a vacation tonic as the murmur of the sea, says the United States Public Health Service, in a publication entitled "How to Benefit from a Vacation," cited recently by the Associated Press. Helping with the housework, it seems, keeps the business man's mind off business, and rests his wife. Apartment house roofs are swell for sun-tan and sleep is never sweeter than in one's own bed.

This is bad enough, but Dr. Ray Lyman Wilbur urges American citizens "to make use of their enforced leisure time in visiting the national parks." In these trying times, he says, it is wise to conserve one's health at all costs. "Certainly a vacation in the mountains, particularly in the national parks, is an investment in health that cannot fail to make the nation richer."

Dr. Wilbur knows, for he recently made trips to Acadia National Park, in Maine, and to Glacier and Mount Ranier National Parks, at the expense of the Government.

This last utterance of Wilbur is of a piece with his recent remarks upon the benefits of the depression to childhood.

An administration that speaks through such banal, inept and intellectually bankrupt voices cannot com-

mand the respect of the civilized element in this country.

There Are No Specialists

Each specialty has developed a realm for itself to-day that is too vast for any one man to master. Each specialist, therefore, functions in the *general* field of his specialty.

The specialist's field is now much larger in itself than the field of the old general practitioner used to be. There is deep irony in this.

The truth is that there are no specialists. All are general practitioners, moving in large orbits perhaps less efficiently than the general practitioners of other days.

The Industrialized Cow

How does the highly "industrialized" cow compare with her sister on the ordinary farm?

What effects have the feeding policies, housing, hygienic management, and intensive milking upon the life, health, and productivity of the industrialized animal?

In the first place, such a cow is selected because of her health and ancestry, the latter having very much to do with hereditary milking potentiality. Then she enjoys periodical medical examinations and is tested for tuberculosis and *Brucella abortus*. The men who care for her are themselves clean, healthy, and frequently examined physically, and all utensils used by them are sterilized. The cows are carefully housed in a dust-free atmosphere; all manure is quickly removed, bedding is pushed up close to the manger, and there is no feeding until after milking. They are fed upon scientifically grown crops known to contain a sufficiency of calories, vitamins, minerals, and all other nutritional factors, in contrast to the haphazardly fed, grazing farm animal of ordinary type, which at the present time of financial stringency is more likely than ever to suffer not only in the mode of housing and in sanitation but also in point of feeding.

These standards were established by the medical profession. Indeed, certified milk was originated by it and is now produced under the strict supervision of County Medical Societies in accordance with the rules of the American Association of Medical Milk Commissions.

The high milk productivity of these animals is a selective biological phenomenon. The ordinary cow shows no extraordinary galactiferous propensities. Where high production is the desideratum stock has to be carefully considered from this standpoint. The breeding bulls must also be selected with exact knowledge as to the productivity of their dams. A high average of milk production in a herd would be 10,000 pounds per annum. The famous milker Tilly Alcartra attained to 30,452 pounds per annum. In general, Holsteins are the heaviest producers.

Study of the literature and first-hand investigation tend to show that the highly industrialized cow is healthier, lives longer and has more milking periods than the ordinary farm animal.

Here is one phase of modern industry—our industries are not always attractive upon scrutiny—that should enlist the hearty interest, approval and support of the medical profession. It is humane, biologically, economically and scientifically sound, and a vast source of human health and general well-being.

Another Delusion Shattered

Walter G. Bowerman, assistant actuary of the New York Life Insurance Company, writing in the *Weekly Bulletin* of the Department of Health of New York City, under date of July 16, makes the interesting psychological point that war, which is a very highly organized form of existence, acts as a substitute in many ways for the individual urge to suicide, which seems to be pretty strong in civil life. Many cases of foolhardiness, he says, have doubtless been branded as bravery in the instance of individuals of this type. At the time of the World War, he reminds us, a low point was reached in the suicide rate for men.

Enemies at the Gate

The humiliation that has been meted out to the medical profession by way of the Volstead Act, particularly that section of it which ordains how the practitioner shall prescribe alcohol in the treatment of disease, is as nothing compared to the loss of dignity that is in store for it if the determined uplifters who are now brazenly planning our destiny have their way. These ambitious gentry are bent upon mischief. In this time of lowered and menaced standards, socialization fanatics are potentially more pernicious and insidious than ever were the prohibitionists. The prohibition experience has done good in that it has taught us to be wary with the whole tribe of uplifters.

Long Live the G. P.

In his recent book, "The Care and Feeding of Adults," Dr. Logan Clendening points out that one of the most important functions of the general practitioner is the prevention of unnecessary and harmful manipulations, and particularly the prevention of unnecessary operations.

This very essential function is doubtless one of the principal reasons why some people have been so anxious to abolish him. In the case of quite a few who talk about his "passing," the wish is simply father to the thought.

Since it has become more manifest that the entire program of preventive medicine is futile so long as the general practitioner is not taken properly into account he is being treated quite nicely, indeed, almost subjected to flattery. Thus we find Fishbein declaring at the New Orleans meeting of the American Medical Association that "The family physician will always be the most economical and practically the most satisfactory physician for 90 per cent of human ailments." After what has been done to the general practitioner in recent years such a declaration carries much significance.

It's a Shame

We don't suppose that the new knowledge regarding deficiency of vitamin B in the human dietary as a large factor determining feeble-mindedness will give pause to the advocates of sterilization. After the "progress" that has been made in the administration of sterilization laws in many States, in winning public support of the policy, and in gaining the approval of the United States Supreme Court, it is just too bad for us to be told that feeble-mindedness can be prevented and cured by insuring a sufficiency of vitamin B in the dietary of children.

Just when many have thought that the whole ques-

tion was in course of settlement along the radical lines of the eugenic reformers we have to stop and consider this annoying contribution regarding the rôle of vitamin B.

Will the sterilizationists stop their propaganda and practices and descend to the tiresome business of feeding vitamin B carriers to children? We doubt it; it would spoil a great racket; it isn't in the human (?) nature of reformers; it's too indirect; and it's too troublesome.

At any rate, that wholesome attitude, the deep distrust of reformers that Logan Clendening astutely ascribes to the average man, has received further encouragement.

"They're Mild But They Desugarize"

The scope and scale of the smoking habit being what it is, some advantage might be taken of it to introduce a new mode of therapy. Why not insulin cigarettes for diabetic inhalers and the undernourished? Whether such a route of entry would be efficacious must be left to the research brethren and the clinicians; we merely present the idea to them, with due diffidence, and perhaps a bit whimsically.

Desirable local as well as constitutional effects might be pleasantly attainable through this method.

Mouth hygiene might thus be enhanced by the local influence of drugs known to exert inhibitive effects upon such conditions as pyorrhea alveolaris and Vincent's disease.

Such results might be brought about without any undesirable change in taste; indeed, it is possible that certain medicinal treatments of the tobacco might improve flavor.

It is apropos to quote in this connection the remarks of Dr. John H. Musser at the New Orleans Session of the American Medical Association in May, 1932. In the course of his discussion of Dr. Conner's paper on the injection of liver extract in the treatment of pernicious anemia, he said: "It is interesting that pharmacologists and those interested in the administration of animal preparations, such as insulin, are striving most vigorously for methods of administering the drug other than through injection; possibly their efforts at some time will be successful."

Therefore of special interest is the work of Collens of Brooklyn, who recently described, before the International Congress on Physiology at Rome, a method of replacing injections of insulin by the nasal administration of the remedy, for which he claimed identical results.

It is not to be forgotten that Stuber of Kiel and Lang of Freiburg met with some success in 1829, using a method of mouth administration which was too expensive to be generally utilized.

L. I. News and Notes

George Albert Smith, M. D.

Dr. George A. Smith, long well-known as Superintendent of the Central Islip State Hospital, is retiring from active service. He is the dean of our State Hospital superintendents, and the last representative of the former local asylum system. In this connection the regular quarterly conference of State medical executives was arranged to meet at the Islip institution on September 27th. This occasion was utilized by his colleagues to present Dr. Smith with a superb gold watch. It may be recalled that the Associated Physicians of Long Island some years ago, by special invitation of Dr. Smith, held one of its regular meetings at his Hospital.

ASSOCIATED PHYSICIANS OF LONG ISLAND

103rd Regular Meeting at Mitchell Field, Long Island,
Tuesday, October 25th, 1932

3.00 P.M.—Business Session.

3.30 P.M.—Inspection of the Field. Personally conducted by one of the officers of the Medical Corps.

4.30 P.M.—Scientific Session. Dr. C. L. Chase, Major, M.C. in charge. Symposium on "Aviation Medicine" by the various members of the medical corps best suited to their particular topic. Topics and names to be announced on the printed program.

6.30 P.M.—Dinner at the Salisbury Club. After dinner a well known "ACE" will give personal experiences of the War and other hazards of flying. Doctor Jacques C. Rushmore, the president, will occupy the chair during the business meeting. It was his idea to give the members of this society something new and interesting in the line of a scientific meeting. The committee feel sure that they will get both. The War Department has been more than generous in permitting the use of its facilities, ordinarily denied lay organizations, and in assigning specially trained medical aviation experts for the scientific edification of our members in medical aviation.

Those men who enjoy the social side will please take note that the Salisbury Club will reserve a Golf Course for a round of golf in the morning.

Despite the economic situation, it is expected that a very large number of men will turn out in order to see and hear something intensely interesting, instructive and unusual. The price of the dinner will be three dollars—the treasurer making up the deficit.

To those men who still rave about the wonderful meeting and outing at Karatsonyi's last spring, the committee wishes to state that this will eclipse any previous meeting. The old timers, of course, will be present, but many men are turning out this time who rarely attend these affairs.—Thomas B. Wood, Chairman.

decreased revenue what did politicians do? Did they reduce the number of employees and cut wages as any properly managed business concern would have done? No, they increased the cost of mailing! The postal employees have their lobby and the public has no ready means of protecting its interests and the whole affair was one of pure political expediency at the expense of the public, millions of which have no income at all.

Politicians would do the same thing with state medicine and another privileged class would be created whose salaries would go on whether their services were needed or not until such time as sheer necessity compelled a change.

Life insurance is comparatively simple; a man is either alive or dead and there can be no mistake about the matter, but if government should undertake to insure against sickness who knows the number of persons who would suffer from backaches or some other ache pretty much the year around and would live at the expense of the already overburdened taxpayer?

The interest of the medical profession itself must of course be subordinated to the welfare of the people as a whole, and if the common weal were to be promoted by social insurance there could be no question for one moment but this country might well think twice before adopting a system that has contributed its full share to the insolvency of European nations and the total demoralization of the medical profession in those countries.

Democracy today is certainly different from what it was when every able bodied man earned his own living, but with millions out of work and want present on every side one may well wonder if we are on the right track.

Social insurance is neither humane nor progressive but an instrumentality for collecting vast sums of money from the public for maintaining an army of inefficient office holders.

Slaves were furnished free services of all kinds but who wants to be a slave?

FRED D. LA ROCHELLE, M.D.

Springfield, Mass., August 18, 1932.

Correspondence

Difference Between Life and Social Insurance

Editor, MEDICAL TIMES AND LONG ISLAND MEDICAL JOURNAL,

In an editorial of August 16th the *World-Telegram* asks "Where is the difference in principle between life insurance or even fire insurance and an insurance which would tide people over the calamity of sickness, old age or lost employment?"

There is none, provided this service is rendered by private agencies that contribute their share to the support of the government. But the fact that no company has seen fit to write policies to cover these eventualities is an eloquent answer to their question. All forms of social insurance are contrary to the spirit of democratic government if they are rendered by the state, otherwise they are no different from any other.

Doctors who favor or oppose state medicine are not to be classified as progressive and conservative but as successful and unsuccessful. Men who are not able to sell their services in the open market nurse the idea that they could deal more successfully with politicians but it is a question if society as a whole would profit from the change.

Medical services to veterans is a good example of state medicine and the cost is many times that of comparable services in private practice and on the whole these services are not satisfactory. If any one claims the contrary let him try the simple experiment of collecting the full cost directly from these patients. It is probable that the Veterans' Hospital would be emptied in a day under such circumstances. If the veterans would not pay directly what is the advantage of indirect payment?

When the veterans returned from the War if they had been encouraged and assisted to return to their old occupations and become self-sustaining members of society they would be much better off today and the country as a whole would be billions of dollars ahead and of course the veterans would have their share of this wealth while now they can only partake of the common calamity.

There is no reason to believe that state medicine would function any more efficiently than the Veterans' Bureau and if the cost of services to veterans were multiplied by the total number of the population the cost would simply be staggering.

Society does not shackle its members when it enables the head of a family to insure his wife and family a few thousands after his death because it is done efficiently by responsible agencies. If the insurance business were run by bureaucrats in the same manner as the government it would take all the national income and certainly as desirable as insurance may be it would not be wise to spend all the people's income for that.

A good instance of the government in business is the postal department. Faced with a regression in business activity and a

Contemporary Progress (Concluded from page 328)

eration are living with the diabetes well under control. The results in these cases suggest that in chronic gall-bladder disease in diabetics, recommendation of surgical treatment is justified with proper selection of cases and careful pre-operative and post-operative care.

Urology

Graphic Registration of the Function of the Ureter

H. H. Trattner of Western Reserve University Medical School (*Journal of Urology*, 8:1, July 1932) presents a method of recording ureteral contractions, the essential principle of which was described in 1924. The manometer has been developed until the instrument described in this article has been perfected, to which the name hydrophorograph ("water-wave-recorder") has been given. The chief parts of this instrument are: A water manometer with centimeter scale so that the amplitude of the individual peristaltic waves may be measured. Tambour cap with rubber diaphragm arranged so that its application is simple and must always be done in the same manner, giving the same degree of diaphragm tension with all operators. Inflow arm with valve to which the free end of the ureteral catheter is attached; outflow arm at the end of which is a screw valve to prevent the accumulation of urine in the ureter and to obtain a continuous recording of peristalsis. Tambour lever system with ink recording pen to which the excursions of the tambour diaphragm are transmitted. Chart and kymograph clock mechanism, the chart being ruled in inches. Variable electric drop recorder for the determination of the rate, approximate amount of renal excretion, and presence or absence of electrolytes in the urine; the construction is such that by the manipulation of a lever, each drop, or every fourth, eighth or sixteenth drop, as desired, is automatically recorded in ink. Stand and portable case so that the instrument can be used in office or hospital. In the use of this instrument, a whistle tip catheter, preferably size No. 7 F, is used in adults, if possible; if such a catheter cannot be passed, a No. 6 catheter may be used and even an olive tip; the ureteral contractions are best recorded when the catheter tip is from 5 to 15 cm. up the ureter. With this instrument the physiology of the ureteral contractions—their amplitude, rate and rhythm—ureteral response to stimulation, and factors influencing ureteral peristalsis, can be studied and recorded; and also various pathological conditions such as mechanical and nonmechanical obstruction, the action of toxins and the effect of inflammation on the ureter. This method is productive of no injury to the urinary tract and causes little added inconvenience to the patient who must undergo cystoscopy and ureteral catheterization. "The finished record is a graphic demonstration simultaneously of the power with which the urine is driven from the kidney to the

bladder and the rate and approximate amount of renal excretion per unit period of time." Such records have proved of definite value clinically in diagnosis and prognosis of many pathological conditions in the upper urinary tract.

COMMENT

Any investigation finally indicating pathology in comparison with normal physiology is of value and progressively so with time. Of particular merit are procedures like hydrophorography of the ureters, because it is done as part of ordinary ureteral catheterization, i.e., without additional penetration of the ureters. Unless a valid and prohibitive limitation is later demonstrated, it seems possible, nay probable, that this method will be the running mate of electrocardiography in heart conditions.

Relation of Lipoid Nephrosis to Nephritis

E. T. Bell (*Annals of Internal Medicine*, 6:167, August, 1932) states that in 1929 he reported a detailed histological study of the renal glomeruli of 4 cases of nephrosis in which the clinical picture had shown only minor variations from that of pure lipid nephrosis. In these cases increase of endothelial cells or irregular thickening of the basement membrane was found. Since that time he has made pathological studies of 3 additional cases which clinically fulfilled "the most rigid requirements of the pure type" of lipid nephrosis. In one of these the glomeruli showed a marked irregular thickening of the basement membrane and a definite increase in the size of the endothelial cells, more marked than in any of the 4 cases previously studied. In the second case there was no definite increase of endothelial cells and the changes in the basement membrane were slight. In the third case there were patchy thickenings of the basement membrane but no increase of endothelial cells. From his findings and a review of literature the author concludes that lipid nephrosis is not a distinct entity but a form of glomerulonephritis. In well defined cases of the so-called mixed type of nephrosis, there is a marked thickening of the capillary basement of the glomeruli and a variable amount of endothelial proliferation. But lesions of this type, though less pronounced, are sometimes found in cases of clinically pure lipid nephrosis and in those with but slight variation from this pure type. The author is of the opinion that in both nephrosis and nephritis there is an injury to the glomerular capillaries by some toxic substance. If little or no reaction occurs in the capillaries, the clinical picture is that of pure nephrosis with albumin escaping in large quantities through the open capillaries; a moderate reaction, with some narrowing of the capillaries, produces some of the symptoms of nephritis—hypertension, impaired renal function; a marked reaction, with more advanced narrowing or occlusion of the capillaries, produces a clinical picture of nephritis.

COMMENT

Any change in the kidney which develops the higher grades of casts (blood, pus, epithelial, fatty and waxy) in varied kinds and progressive numbers means profoundly a destructive process. The common cause, searched for entirely too little, are bacteria and toxins. The latter are almost unknown in character but highly damaging in quality. A study of the bacteria in the urine and kidneys of these lipid cases, followed by one of the teeth, tonsils and intestines as foci would have augmented the value of this paper.

Syphilitic Nephritis

A. J. Rich (*Bulletin of Johns Hopkins Hospital*, 50:357, June, 1932) describes a peculiar and hitherto unrecognized form of nephritis found to be associated with syphilis. It was found in 13 out of 200 autopsies in which there were definite syphilitic lesions in other organs; in one additional case (not included in these 200 cases) with a syphilitic aortitis; and in 5 other cases without syphilitic lesions, but with a history of infection and a positive Wassermann reaction during life. No such lesion was found in 400 control autopsies without evidence of syphilis. Microscopically this lesion consists of dense focal accumulations of mononuclear cells in the interstitial tissue, especially in the cortex, which compress and replace many tubules. These cell accumulations show a marked tendency to be grouped into spherical nodules which encroach upon the tubules. Another peculiar characteristic is the presence of crystals in the affected tubules. As the process advances the focal accumulations of cells become replaced in certain areas by circumscribed scars. This lesion was found in the florid form of syphilis in which no treatment had been given as well as in the later stages and in treated cases. As this lesion represents an interstitial nephritis, it would not cause definite symptoms unless the renal involvement was extensive. In one of the cases of the series, the clinical record shows that white blood cells, predominantly lymphocytes, were found in the urine.

COMMENT

Late tertiary syphilis in any organ or system of organs indi-

cates not only the occasional high susceptibility to the disease coupled with imperfect response to good treatment but also the all-too-common neglect of treatment, usually by the patient but rarely by the general practitioner. A study of this kind in demonstrating the late renal lesions is only another warning. Osler believed that syphilis in 60 per cent. of all autopsies is a positive factor in general breakdown.

Chronic Foci of Infection in Kidney and Bladder

R. D. Herrold and E. E. Ewert (*Urological and Cutaneous Review*, 36:506, August, 1932) have found that cystalgia, or so-called irritable bladder, is often due to chronic foci of infection in the urinary tract with staphylococcus or streptococcus. The urinary symptoms are frequency, urgency and dysuria; and general symptoms of systemic infection may also be noted. The symptoms in many instances resemble those of incipient tuberculosis of the genito-urinary tract, from which condition they must be differentiated. The urine in this type of chronic infection is usually clear macroscopically and the microscopic sediment contains relatively few pus cells; blood is sometimes present in small quantities (microscopically) and with it a trace of albumin. While the infecting bacteria can usually be found in the stained smear by careful search, cultures of fresh specimens in solid media are negative, as a rule. The authors have found that the best method of isolating the staphylococcus or the streptococcus in these cases is to incubate the urine obtained by catheter and make subcultures at intervals of twenty-four hours. The cases studied by this method with positive results occurred in women; but as similar symptoms occur in men with the stained smear negative for tubercle bacilli, it is "logical to assume" that similar foci are of comparatively frequent occurrence in men.

COMMENT

Bacteria in the urine are there with at least potentiality for damage and often productivity of it before symptoms are very manifest. If urines in all obscure cases were studied and cultured again and again for bacteria, negative findings would be less common and such foolish diagnosis as "essential hemorrhage" would cease. A condition as positive as hematuria must have a cause. Our duty is to find it and treat it.

Urinary Antiseptics

W. Heckenbach (*Zeitschrift für Urologie*, 26:402, June, 1932) notes that the large number of urinary antiseptics in use indicates that no one of them is constantly effective against all types of urinary tract infection. A urinary antiseptic to be of clinical value must not only have an effective bactericidal action, but also must be chemically stable, nontoxic and nonirritating to the urinary tract, even in large doses. There are some drugs that apparently fulfill these conditions according to laboratory tests and yet are not invariably effective in clinical use. The author believes that this is due largely to the fact that certain pathological conditions interfere with the excretion and concentration of the antiseptic and thus with its effective action. Bilateral renal disease diminishes and retards the excretion; if one kidney is intact the drug is excreted largely by this kidney and does not reach the diseased tissues in sufficient concentration. Increased or diminished peristalsis in the ureters also interferes with excretion of the drug. All these factors must be considered in the use of urinary antiseptics, however effective their bactericidal action under normal conditions.

COMMENT

This study is oblivious to the concrete fact that a urinary antiseptic to register high efficiency must deliver its effects where the bacteria are colonizing on, in and under the mucosa or in the urine as it lies in the renal pelvis or bladder. None has yet been found to meet these conditions. Moreover, many antiseptics fail because the source of infection is not controlled. Thus the bacteria filter through or colonize in the kidneys much faster than they can possibly be destroyed. This point has special importance in colon bacillus infections, which, of course, require cure of the intestinal overgrowth of the bacillus.

Heat in Treatment of Prostatic Affections

M. L. Boyd (*Journal of Urology*, 27:719, June, 1932) finds that the use of heat in the treatment of acute and chronic infections of the prostate and seminal vesicles is a common practice among urologists. Some use various electrical appliances and others hollow tubes inserted into the rectum through which hot water is circulated. The author has found that rectal irrigation with a two-way tube is the best method, but in order that this method be harmless and effective, the two-way tube must be of a type that does not irritate the anus; and hot normal saline solution, which causes less rectal irritation than tap water, must be used. Boyd has designed a two-way metal tube for this purpose, in which the inflow holes are small and irregularly spaced and have rounded smooth edges; there are no inflow holes immediately adjacent to

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MEDICAL BOOK NEWS

Edited by WILLIAM HENRY DONNELLY, M.D.

All books for review and communications concerning Book News should be addressed to the Editor of this department at
1313 Bedford Avenue, Brooklyn, New York.

OCTOBER, 1932

REVIEWS

Materia Medica, Pharmacology and Therapeutics

MATERIA MEDICA PHARMACOLOGY THERAPEUTICS AND PRESCRIPTION WRITING. By Walter A. Bastedo, Ph.G., M.D. 3rd edition. Philadelphia, W. B. Saunders Company, 1932. 730 pages, illustrated. 8vo. Cloth, \$6.50.

The frequent reprints of the first and second editions of this work prove the value of the publication. This third edition has been written in order to bring to date and record, the recent advances in the subject. To anyone who knows the character of the author's work and teaching there is no need to say that this work is doubtless the best and most complete volume on materia medica, pharmacology and therapeutics in the English language. The author has described the more used drugs and has given the therapeutic indications. In this edition he has incorporated all of the newest and most useful drugs of value. The desirable features of the older editions and the recent additions make this a volume for reference for all who are using drugs. The publishers are to be commended for the excellence of presentation of this volume.

HENRY M. MOSES.

The Heart Rate

THE HEART RATE. By Ernst P. Boas, M.D., and Ernst F. Goldschmidt, Ph.D. Springfield, Ill., Charles C. Thomas, 1932. 106 pages, illustrated. 8vo. Cloth, \$3.50.

This study by the authors is the result of the belief on their part that a twenty-four hour study of the heart beat is of far more benefit in the treatment of heart conditions than the occasional examination of the heart's action.

After an historical review of methods of estimating the pulse and heart rate, they present the description and explanation of an instrument, the Cardiographometer, which records the heart's action at any time desired during the twenty-four hours. This gives the action of the heart under all circumstances. Observations upon three hundred and fifty-six patients, with normal and abnormal hearts are carefully presented. This monograph is clearly written, gives much of interest, and opens a new field for research. The tables are excellent, the charts carefully prepared and the volume one which expresses the best on the part of the publishers.

HENRY M. MOSES.

Behavior Aspects of Child Conduct

BEHAVIOR ASPECTS OF CHILD CONDUCT. By Esther Loring Richards, M.D. New York, The Macmillan Company, 1932. 299 pages. 8vo. Cloth, \$2.50.

To the growing list of works concerning themselves with the mental health of childhood is added this excellent presentation of the "Behavior Aspects of Child Conduct."

At the outset it is made clear that for a complete understanding of behavior in childhood there must be an intelligent interest on the part of the physician, parents, teacher, psychologist, social worker, "and every other constructive force of our social organization that has responsibility for the welfare of childhood."

Behavior is dependent upon inherited characteristics as the physical endowment of the child, his intellectual abilities and emotional equipment. The other important factor is the environmental, including the home and school. There is inquiry into the causes of children failing to adjust to their environment, physical handicaps and their relation to child behavior, school and the intellectual misfit and the importance of habit training during early childhood.

There are further instructive chapters on the handicaps of constitutional endowment, facts and fallacies about fears in child-

hood, principles in the management of adolescence and the delinquent child.

The author offers no panaceas or theoretic conceptions of therapy as based on principles of psychiatry. Instead, she emphasizes by means of frequent case studies, that the way towards solution of conduct disorders in childhood, is by a thorough knowledge of the child and parents, and their relations to the school and community at large.

The reviewer recommends this book as a valuable addition to the library of a physician, for it is a presentation of both learning and common sense in the field of mental hygiene.

STANLEY S. LAMM.

Medical Men in the American Revolution. 1775-1783

MEDICAL MEN IN THE AMERICAN REVOLUTION. 1775-1783. By Louis C. Duncan. Carlisle Barracks, Pa., Medical Field Service School, 1931. 414 pages, illustrated. 8vo. Paper. (The Army Medical Bulletin, No. 23).

All those who are interested in the history of the development of the medical profession during the period of the American Revolution will find this volume delightful and instructive reading. It should be particularly interesting to the medical officers of the Army and the Navy. The text is richly illustrated with reproductions of old prints of medical officers and institutions of that period. The subject matter is chronologically treated with indisputable accuracy. A good book, very well written, and worth while reading.

WILLIAM RACHLIN.

Male Disorders of Sex

MALE DISORDERS OF SEX. By K. M. Walker, M.D. New York, W. W. Norton & Company, Inc., 1929. 191 pages. 12mo. Cloth, \$2.00.

This little work presents the various forms of sex dysfunction in a very interesting and instructive manner. The author's literary style is typical of many prominent English writers, and he displays evidence of a wide experience upon the subject. Venereal diseases are not discussed. The opening chapter is devoted to the important subject of the physiology of sex function. There follows a discussion of the varied phases of impotence and of sterility, including their management. Walker very aptly discourses upon the psychology of sex and properly stresses this side of the subject.

There is much information and instruction, not only for the student, but for the average practitioner who has had such limited knowledge along this line.

AUGUSTUS HARRIS.

Gleanings of Low Voltage Technique

GLEANINGS OF LOW VOLTAGE TECHNIQUE. By George A. Remington, Ph.G., M.D. Chicago. Privately Published, 1932. (On sale by the McIntosh Electrical Corporation, Chicago). 122 pages, illustrated. 8vo. Paper, \$1.00.

Though this little book is distinctly a commercial publication, it contains many passages of considerable interest and value. The text covers not only the medical use of low voltage currents, but also the minor surgical application of the low voltage high frequency currents. The list of pathological conditions and their treatment by electrical means is particularly complete. The absence of any attempt to disguise the commercial nature of the presentation is distinctly in its favor. The book is clearly printed and particularly well illustrated, and can be highly recommended to those interested in its subject.

JEROME WEISS.

The Genius of Louis Pasteur

THE GENIUS OF LOUIS PASTEUR. By Piers Compton. New York, The Macmillan Company, 1932. 361 pages, illustrated. 8vo. Cloth, \$4.50.

"The Genius of Louis Pasteur" by Compton reveals to the reader in a most interesting and instructive manner the scientific discoveries made by that great scientist and poet. The chapters devoted to his home life are indeed charming and balance those chapters devoted to detailed prescriptions of his discoveries.

The book makes excellent reading for both the medical profession and layman.

EDITH SCHOENFELD.

The Medical Value of Psychoanalysis

THE MEDICAL VALUE OF PSYCHOANALYSIS. By Franz Alexander, M.D. New York, W. W. Norton & Company, Inc., 1932. 247 pages. 8vo. Cloth, \$2.75.

The book is an excellent exposition of psychoanalysis as is understood by one of its foremost exponents. Dr. Alexander is the first and only man to hold a chair in psychoanalysis in an American university.

The book deals with the development of psychoanalysis, the present status of psychoanalysis as a theoretical and therapeutic system, critical considerations on psychoanalytic treatment of psychoses, psychogenic factor in organic disease, and psychoanalysis in medical education.

It is an excellent book, well written, and comprises the basic principles of psychoanalysis. It will prove most valuable to a beginner. It is highly recommended to all medical men.

IRVING J. SANDS.

The Interne

THE INTERNE. By Wallace Thurman and A. L. Furman. New York, The Macaulay Company, 1932. 252 pages. 12mo. Cloth, \$2.00.

We hope that many interne staffs will familiarize themselves with this book. Most large institutions provide, or should provide, their resident staffs with a set of instructions on "What are the Duties and Obligations of the Internes?" This book, in the guise of a romance, will give the interne all the information necessary on "What not to do."

This book is a story, allegedly founded on known abuses, of a young physician, just out of medical school, with high ideals of the practice of medicine, who sees these ideals shattered in the vicious environment of an unfortunate hospital appointment. In the end, however, the memory of the example of his father, an estimable country practitioner, saves him. He marries the nurse he has wronged and refuses the offer of the abortion ring. The authors seem to have acquainted themselves with all the weaknesses and wickedness of internes, but seem to have forgotten to refer directly to the use of the "black bottle."

The regard in which these young physicians is held is shown by the remarks of a detective who has learned that the liquor for a staff party has been brought into the hospital through a faked ambulance call;—"Just because you're going to be doctors some day, you needn't think that you can do any damn thing you please and get away with it." It is regrettable that the interpretation of the Hippocratic oath is left to an officer of the law, but the advice is good and the point well taken.

J. RAPHAEL.

The Sign of Babinski

THE SIGN OF BABINSKI. A Study of the Evolution of Cortical Dominance in Primates. By John F. Fulton and Allen D. Keller. Springfield, Ill., Charles C. Thomas, 1932. 165 pages. 4to. Cloth, \$5.00.

This is a beautiful work, highly creditable to American scientists and publishers. It is valuable to neuro-physiologists and those interested in medical culture; less so to practitioners as such even if neurologists. They justify the claim that their plan "affords an experimental means of elucidating the evolutionary background of the human brain." But it is difficult to pick out single points for remark, without reference to the context. And they run across many points that need "further investigation."

In general they follow closely English lead in both art and style. The monkey colonies of Prof. Yerkes have evidently aided much with material, though they technically limit the term monkey to types of primates below the gibbon chimpanzee and gorilla. Protocols of experiments are given, many to be reported later more fully.

"Recovery of motor power after lesion of the leg area" in the cortex is rapid and nearly complete in vertebrates as high as the cat and dog; but gradually lessens through primates up to man.

They make more than is commonly allowed of the "bilateral representation in the [cortical] leg area, though they may not have valued Flechsig's work adequately. With this is associated the increased impairment by lesions of both cortico-pyramidal

areas. The Babinski sign is greatly enhanced when the opposite cerebral center is also destroyed.

"Only when the lower lumbar segments [of the cord] are completely freed from all forms of higher control is the Babinski reflex seen in the monkey," i.e., lower primate.

Apropos of their operative experience they say, "The principles of surgery should be taught in the physiological laboratory,"—perhaps the biological and allied chemical laboratories may also put in their claim!

Illustrations, tables, appendices, bibliography and an author-subject index add to its completeness.

WILLIAM BROWNING.

Conferences D'Hépatologie—Les Grand Syndromes

CONFÉRENCES D'HÉPATOLOGIE; LES GRAND SYNDROMES. By Dr. G. Parturier. Paris, Vigot Frères, 1929. 260 pages. 8vo. Paper, 25 francs.

This work would be called, in America, the symptomatology and differential diagnosis of diseases of the liver. From this it can be seen that it consists in a complete presentation of all the symptom complexes that may occur which involve the liver and the biliary passages. As is the habit among our French colleagues the many conditions are divided into many more syndromes which make the reading a little difficult for the American mind.

In physical diagnosis the author uses the names of French clinicians to identify various physical signs and this makes it all the more difficult for physicians in other countries. As a reference book for French medical students, in their study of diseases of the liver and the gall bladder this book should be very useful.

E. P. MAYNARD, JR.

PUBLISHERS' READING NOTICES**New and Nonofficial Remedies, 1932**

NEW AND NONOFFICIAL REMEDIES, 1932, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1932. Cloth. Price, postpaid, \$1.50. pp. 402. Ivi. Chicago, American Medical Association.

The recognition of a preparation for inclusion in this book singles it out from the host of new products of the pharmaceutical manufacturers as being a worthwhile addition to the existing armamentarium of the practicing physician. To be thus distinguished it must be shown, under an impartial scrutiny of the carefully chosen group which is the Council on Pharmacy and Chemistry, that it has acceptable evidence of therapeutic usefulness and that it is marketed in accordance with the honesty and straightforwardness envisaged by the excellent Rules which have been the outgrowth of the Council's quarter century experience in appraising the merits of new drugs.

In accordance with its custom of keeping the annual editions of New and Nonofficial Remedies in the forefront of current medical thought, the Council offers in this volume the newly revised articles: Barbitol and Barbitol Compounds; Fibrin Ferments and Thromboplastic Substances; Liver and Stomach Preparations; Mercury and Mercury Compounds; and Ovary. Perhaps the most noteworthy new preparations admitted are: nupercaine-Ciba, a local anesthetic; pentobarbital sodium, a barbituric acid derivative; and iopax, a new preparation for roentgenologic use. All of the ovary preparations formerly described are omitted and none of the new standardized preparations are described, although the names Theelin and Theolol are recognized in the revised general article. Another change of importance is the classification of articles formerly listed as "Exempted" under the heading "Accepted but Not Described." There is the usual excellent index and the augmented Index to Proprieties Not Included in N. N. R.

Pharmacology of the Medicinal Agents in Common Use

PHARMACOLOGY OF THE MEDICINAL AGENTS IN COMMON USE. By Stanley Coulter, Ph.D., Sc.D., Indianapolis, Ind. Eli Lilly and Company, 1932. 234 pages. 16mo. Flexible fabrikoid, 50c.

The student of medicine will always find the large standard texts on pharmacology indispensable for critical study of the actions and uses of drugs. These texts, however, are in many instances so voluminous that they are not available for ready reference or for study in spare moments.

Heretofore there has been no comprehensive, small-size work on pharmacology. To meet this need Dr. Stanley Coulter, Dean Emeritus of the Purdue University School of Science, spent over three years in the preparation of a compact treatise on the pharmacology of the drugs now in common use by the medical profession. In this work he had the co-operation of members of the medical and research staffs of the Lilly Laboratories.

The subjects are alphabetically arranged for quick reference. Under each title there is a terse statement of the constituents

of the drug, its physiological action, dosage, and brief mention of its more important therapeutic uses.

This Pharmacology is prepared with special attention to the needs of the medical student. The main part of the text dealing with individual drugs is followed by an appendix of tables and miscellaneous information useful to the medical student. In no sense is this book intended to supplant the larger standard texts on pharmacology. On the other hand, it is the hope of its author and the publishers that the use of the pocket-size book will so intrigue the student in the subject that he will be led to closer studies of the great authorities on pharmacology.

BOOKS RECEIVED

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. Fiftieth Year, 1932. Edited by Carey F. Coombs, M.D. and A. Rendle Short, M.D. New York, William Wood Company, 1932. 638 pages, illustrated. 8vo. Cloth, \$6.00.

BEHIND THE DOOR OF DELUSION. By "Inmate-Ward 8." New York, The Macmillan Company, 1932. 325 pages. 12mo. Cloth, \$2.00.

FUNGUS DISEASES. A Clinico-Mycological Text. By Harry P. Jacobson, M.D. Springfield, Ill., Charles C. Thomas, 1932. 317 pages. 8vo. Cloth, \$5.50.

CLASSIC DESCRIPTIONS OF DISEASE. By Ralph H. Major, M.D. Springfield, Ill., Charles C. Thomas, 1932. 630 pages, illustrated. 4to. Cloth, \$4.50.

THE SCIENCE OF SIGNS AND SYMPTOMS in Relation to Modern Diagnosis and Treatment. By Robert John Stewart McDowall, D.Sc., M.B., New York, D. Appleton and Company, 1932. 440 pages, illustrated. 8vo. Cloth, \$7.00.

THE SPUTUM. Its examination and Clinical Significance. By Randall Clifford, M.D. New York, The Macmillan Company, 1932. 167 pages, illustrated. 8vo. Cloth, \$4.00.

MENTAL DEFICIENCY DUE TO BIRTH INJURIES. By Edgar A. Doll, Ph.D., Winthrop M. Phelps, M.D. and Ruth Taylor Melcher, M.A. New York, The Macmillan Company, 1932. 280 pages, illustrated. 8vo. Cloth, \$4.50.

CLINICAL ENDOCRINOLOGY OF THE FEMALE. By Charles Mazer, M.D., and Leopold Goldstein, M.D. Philadelphia, W. B. Saunders Company, 1932. 158 pages, illustrated. 8vo. Cloth, \$6.00.

THE SURGICAL CLINICS OF NORTH AMERICA. Volume 12, Number 4. (Mayo Clinic Number). August, 1932. Issued serially, one number every other month by the W. B. Saunders Company, Philadelphia and London. Per Clinic Year (6nos.). Paper, \$12.00, Cloth, \$16.00.

PHYSICAL THERAPEUTIC TECHNIC. By Frank Butler Granger, M.D. Second edition, revised by William D. McFee, M.D. Philadelphia, W. B. Saunders Company, 1932. 436 pages, illustrated. 8vo. Cloth, \$6.50.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. Newman Dorland, M.D. Sixteenth edition. Philadelphia, W. B. Saunders Company, 1932. 1493 pages, illustrated. 8vo. Flexible and stiff binding, plain, \$7.00. Thumb index, \$7.50.

MINOR SURGERY. By Frederick Christopher, M.D. Second edition. Philadelphia, W. B. Saunders Company, 1932. 998 pages, illustrated. 8vo. Cloth, \$10.00.

PREVENTIVE MEDICINE. By Mark F. Boyd, M.D. Fourth edition. Philadelphia, W. B. Saunders Company, 1932. 532 pages, illustrated. 8vo. Cloth, \$4.50.

COMMUNITY HEALTH ORGANIZATION. A Manual of Administration and Procedure for Cities of 100,000, with Suggested Modifications for Larger and Smaller Urban Units. Edited by Ira V. Hiscock. New York, The Commonwealth Fund, 1932. 261 pages. 8vo. Cloth, \$2.50.

FUNCTIONAL DISTURBANCES OF THE HEART. By Harlow Brooks, M.D. Philadelphia, J. B. Lippincott Company, [1932]. 288 pages. 12mo. Fabrikoid, \$3.00. (Everyday Practice Series.)

THE CARDIAC OUTPUT OF MAN IN HEALTH AND DISEASE. By Arthur Grollman, Ph.D., M.D. Springfield, Ill., Charles C. Thomas, 1932. 325 pages, illustrated. 8vo. Cloth, \$4.00.

NEW AND NONOFFICIAL REMEDIES. 1932. Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1932. Chicago, American Medical Association, [1932]. 485 pages. 12mo. Cloth, \$1.50.

SPUNTI DI TERAPIA PRATICA. No. 8, 1932. Naples, "Rinascenza Medica," 1932. 202 pages. 8vo. Paper.

IL MEDICO SI DIVERTE. No. 8, 1932. Naples, "Rinascenza Medica," 1932. 190 pages, illustrated. 8vo. Paper.

FORMULAIRE. Consultations Médicales et Chirurgicales. By G. Lemoine, E. Gérard and others. Eleventh Edition. Paris Société de Publications Scientifiques et Médicales 1932. 1170 pages. 16mo. Fabrikoid, 50 francs.

PHARMACOLOGY OF THE MEDICINAL AGENTS IN COMMON USE. By Stanley Coulter, Ph.D., Sc.D. Indianapolis, Ind., Eli Lilly and Company, 1932. 254 pages. 16mo. Flexible fabrikoid, 50c.

FUNCTIONAL DISORDERS OF THE LARGE INTESTINE AND THEIR TREATMENT. By Jacob Buckstein, M.D. New York, Harper & Brothers, 1932. 265 pages, illustrated. 16mo. Fabrikoid, \$3.00. (Harper's Medical Monographs.)

POSTURE, ITS RELATION TO HEALTH. By Frank D. Dickson, M.D. Philadelphia, J. B. Lippincott Company, [1931]. 213 pages, illustrated. 12mo. Fabrikoid, \$5.00. (Everyday Practice Series.)

ORTHOPEDICS IN CHILDHOOD. By William L. Sneed, M.D. Philadelphia, J. B. Lippincott Company [1931]. 318 pages, illustrated. 12mo. Fabrikoid, \$3.00. (Everyday Practice Series.)

Contemporary Progress

(Concluded from page 332)

the outflow opening. The outflow opening is placed in the center of the tube, doing away with the large openings of the Martin tube. The introduction and withdrawal of this tube causes no irritation of the anus; the metal tube has the advantage over a rubber tube that it transmits "a warning" to the skin of the buttocks and perineum when the solution is too hot. This tube, therefore, permits an effective application of heat in prostatic disease without injury to the rectal tissues.

COMMENT

It is obvious that Boyd does not understand that heat from hot water is heat by contact; the least efficient method. Heat by radiation as in phototherapy is better but neither is as efficient as heat by conduction; namely, heat by the overcoming of tissue resistance by the passage of a high frequency current. Urologists have still to learn what physiotherapists have accepted for many years and are now actually proving; that the heat which the patient feels may do harm, whereas the current which he does not feel as heat does good through what, for lack of a better term, is still described as "actinic" action.

Pediatrics

Celiac Disease

In celiac disease, S. V. Haas (*Journal of the American Medical Association*, 99:448, Aug. 6, 1932) has found that there is faulty absorption and utilization of both carbohydrates and fats, but the intolerance to carbohydrates is primary, and if strict attention is paid to the carbohydrate intake, tolerance for fats follows. In treatment, a high protein diet is used, the basis of which is protein milk; carbohydrate in the usual forms—bread, cereals, potatoes, puddings, pastries and sweets—is absolutely excluded; fats, other than cream or butter, and especially cod-liver oil, are also excluded at the beginning of treatment. In beginning treatment protein milk, made from commercial buttermilk, is used with 20 per cent. cream; if cream is not well tolerated (which occurred in only one of the author's cases), butter is substituted. In older children, it may be two or three days before the protein milk is accepted; if it is persistently refused, milk prepared with calcium caseinate may be used, although it is not so satisfactory. To each quart of the protein milk 3 oz. (85 gm.) of banana powder is added; ripe bananas are also given and may be used in any quantity throughout the treatment. After the initial anorexia is overcome, the appetite is usually voracious for a time, until the body cells "apparently become appeased." During this period frequent feedings are given; as the appetite becomes normal, three or four meals daily are sufficient. During the period of increased appetite beef juice or meat is added to the diet for older children, and in all cases, cottage cheese, white of egg, orange juice or other fruits and vegetables. The fruits and vegetables are added carefully, one at a time. If there is anemia, iron is given, and vitamin D is supplied by cod-liver oil concentrate or viosterol. This supplies an adequate diet, which is continued as a rule for a year; however, after six months an attempt may be made to add one of the forbidden carbohydrates in small amounts, such as bread or a cereal. If there is no relapse, other additions may be made slowly. In cases of celiac disease, even after a normal diet is resumed, sweets and sugar should be used sparingly. The banana contains all vitamins except D, hydrolyzes starch, transforms the intestinal flora, and produces starch-free alkaline stools. With this diet, the ultimate prognosis in celiac disease is excellent; the patients attain full growth and become capable of using a normal diet.

Technique for Feeding Premature Infants

L. W. Sauer (*American Journal of Diseases of Children*, 44:106, July, 1932) describes a technic for feeding small premature infants that he has used in the Evanston (Ill.) Hospital instead of gavage. A piece of soft rubber tubing 3 inches long and $\frac{1}{8}$ in. in diameter is attached to the lower end of a long dropper or eye pipet, and this is sterilized by boiling for five minutes. The attendant sits beside the crib and steadies the infant's head in the left hand, fills the pipet by suction, and carefully inserts the rubber tubing at the side of the infant's mouth, passing it back to the base of the tongue, and then gently presses on the bulb when the tip of the tube reaches the posterior wall of the throat. Sterile diluted breast milk is used for the first feeding four to six hours after birth; this is repeated at three to four hour intervals. After the first forty-eight hours, undiluted breast milk can be used in most cases; seven to eight feedings of 1 oz. can usually be given in every twenty-four hours. If there is any tendency to diarrhea, the breast milk is boiled for five minutes, sterile water being added to replace the amount lost by evaporation; if necessary calcium caseinate is added to the milk before it is boiled. With this method an ounce of milk can be given in less than ten minutes; there is no cyanosis and no aspiration of

the milk. Of the infants fed by this method, none failed to gain weight after the first week, and more than half never lost weight. As the infant's weight approaches five pounds, the sucking act and swallowing usually develop spontaneously; when this occurs, two and gradually more feedings are given by the Breck feeder or a small nipple. The author has found that "this method possesses all of the advantages of tube feeding without any of its handicaps."

Injection of Whole Blood in the New-Born

R. J. Heffernan (*New England Journal of Medicine*, 207:293, Aug. 18, 1932) notes that the neonatal death rate has not diminished in proportion to the advancement of obstetrics in the last twenty years. Intracranial hemorrhage is responsible for a considerable percentage of neonatal deaths. Such hemorrhage due to severe birth trauma can be prevented only by better obstetrics. But infants that are predisposed to bleed because of prolonged coagulation and bleeding time develop hemorrhage due to mild trauma during delivery. In 800 cases in his private practice, the author has given routine injection of whole blood (from the mother) to every baby; 10 c.c. was injected on each side into the loose tissue under the scapulae. In no case was there any ill effect from the injection. There was a large proportion of instrumental deliveries in this series; there were 148 patients with toxemia and 46 premature infants, both of which conditions predispose to neonatal hemorrhage. Yet there was no case of hemorrhagic disease of the new-born or intracranial hemorrhage in this series. Since completing the study of this series the author has seen one mild case of hemorrhage in a new-born infant developing after the injection of whole blood; recovery was prompt after a second injection of blood. He concludes, therefore, that the routine administration of whole blood to the new-born infant is of definite value in reducing the incidence of intracranial hemorrhage and other hemorrhagic conditions of the new-born.

Effects of Carbon Arc Irradiation on Children

G. W. Caldwell (*Archives of Pediatrics*, 49:487, Aug. 1932) reports a study of the effect of regular daily exposures to radiation from carbon arc lamps on 29 children at the New York Post-Graduate Hospital; in 23 cases a carbon arc with a spectral transmission simulating that of sunlight was used; in 6 cases a carbon arc transmitting ultraviolet rays of shorter wave lengths than those of natural sunlight. With the former lamp, the initial exposure was five minutes anteriorly and posteriorly with the lamp at a distance of twenty-four inches; the duration of treatment was gradually increased and the distance diminished until a maximum of twenty to one-hundred minutes irradiation was given with the lamp at fifteen inches. With this lamp reactions, both erythema and pigmentation, were very mild. Of the entire group of 29 cases, 22, or 73½ per cent., showed an increase in the factor Ca P; in the remaining 8 cases there was some pathological condition that explained the failure of this factor to increase; most of these children showed definite clinical improvement during the period of irradiation. Determination of the iron in the blood in 26 cases showed an increase in 17 or 65½ per cent. The whole group showed a gain in weight, except in 4 cases, and these children showed improvement in their physical well-being. No untoward symptoms appeared after long exposure to radiation with the carbon arc lamp with a spectral transmission simulating sunlight; and this lamp may be considered safe to use with the average individual. The suberythema dose of radiation with this lamp was effective in the stimulation of the mineral metabolism of the children in this series.

Growth Disturbances in Chronic Arthritis in Children

J. G. Kuhns and L. T. Swaim (*American Journal Diseases of Children*, 43:1118, May, 1932) report a study of growth disturbances in 12 cases of chronic arthritis in children. Three general types of growth disturbance were found: Persistence of infantile proportions in the hands and feet, which was most common; shortness of an extremity or a portion of an extremity, or symmetrical shortening of both limbs, which was fairly common; actual dwarfism, which was rare and occurred only in cases of severe generalized arthritis. These growth disturbances, while influenced by nonuse of the body and nutritional and endocrine dysfunction, were found to be due chiefly to the involvement of the proliferating epiphyseal cartilages and resulting early ossification. The prevention and cure of such disturbances depends upon general measures to combat the arthritis in its early stages and improve the general condition of the patient; and local measures to improve the function of the extremities and stimulate the circulation. Children with chronic arthritis should be kept under observation for at least five years after the disease has become quiescent.

Immuno-Transfusion in Children

A. Tzanck, J. Huber and Abricossow (*Presse médicale*, 40:1157, July 23, 1932) report the use of immuno-transfusion, i.e., transfusion of blood from an immunized donor, in the treatment

of septic conditions in children, especially those due to streptococcus infection. They have found that such immuno-transfusion gives results superior to ordinary transfusion and is often followed by an immediate and striking improvement in the patient's clinical condition; the fall in temperature is not always so marked or so immediate as the clinical improvement; the temperature falls as a rule by lysis. In one of the illustrative cases reported, immuno-transfusion was used in a severe case of scarlet fever, in which serum had failed to relieve the toxic symptoms, although causing some reduction in the temperature; response to the immuno-transfusion was immediate and recovery rapid.

Economics

(Concluded from page 326)

completion of many communal health measures. As time goes on and more is learned of proposed machine-like methods of caring for the sick, many drawbacks and disadvantages become apparent and the frequently repeated statement that medical things are well conducted in Europe does not prove they are good enough for this country. Statistics offered, such as those of puerperal mortality, must be cautiously received and brought to our standards of recording, or all the records presented must be incredulously received.

Cancer

(Concluded from page 325)

8.—Squamous Cell Carcinoma of the Cervix of the Uterus.

George M. Gelser, M. D., Rochester General Hospital. Female—aged 54 years.

Present Illness: Menopause two years ago. Bleeding irregularly for one year, and has been treated regularly by a physician with tampons during this time.

Physical Examination: There is a large crater filling the entire cervical canal, with a growth extending to the vaginal wall around its entire margin.

Operation: Treatment, August, 1926,—radium emanation, 2400 mg. hrs.

Pathology: Squamous cell carcinoma of cervix.

Follow-up: Entirely well at the present time, and no sign of growth.

9.—Squamous Cell Carcinoma of the Cervical Stump.

Charles W. Hennington, M. D., F. A. C. S., Park Avenue Hospital.

Female—aged 48 years.

Present Illness: Two months ago noticed a slight amount of "show of blood" from the vagina.

Family History: Married—two children.

Physical Examination: Cervix is smooth, hard, "normal."

Operation: Excision of the cervix.

Pathology: Mucous membrane epithelioma of cervix (Buffalo). Squamous cell carcinoma (Park Avenue Hospital).

Follow-up: October, 1931—absolutely well.

Syphilis and Tuberculosis

The established therapeutics of tuberculosis and of syphilis is antithetical. The alternatives in which category nonspecific therapy may be included, used in dosages followed by catabolic effects, are effective in syphilis but harmful in tuberculosis.

The biologic changes incidental to the female sex cycle have a corresponding contrary effect on these infections. Tuberculosis in the female is more malignant, syphilis generally more benignant, the reasons being found in the enhanced inflammatory reaction of the premenstruum.

The sex liability of the tuberculous patient finds clear expression in the mortality curve, while the relative protection of the syphilitic female is demonstrated in the greatly lessened incidence of neurosyphilis. Fundamentally, of course, the difference in the ultimate clinical effect of the identical biologic cycle lies in the ability or disability of the tissues and fluids of the body to dispose of the virus which is disseminated when premenstrual activation of localized lesions takes place.—W. F. PETERSON, M.D., et al., *J. A. M. A.*, July 9, 1932.

